



INFORMATION TECHNOLOGY

Vocational

(Subject Code-402) Under NSQF Level-1

Based on LibreOffice 6.2 Version

Name

Class Section Roll No.....

School

Address

Phone

Computer Series for

SENIORS



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Preface

In the present age of globalised competition, Information and Communication Technology has enormously influenced every sphere and established itself as an integral part of our life.

Kips, with its vast experience in School Computer Education, has designed the books for the **Vocational** course of class **IX** (Level 1) and class **X** (Level 2). It has been done by keeping in view the latest changes in this ever-growing field. The book with its lucid writing style and the latest interactive teaching techniques emphasises on **Tool based** learning. Books IX and X are free from rote learning and enables even a below-average student to understand the concepts quickly and motivates him to learn in an interesting and a better manner.

CONTENTS AND KEY FEATURES

The book is based on the guidelines given by **National Skills Qualifications Framework (NSQF)** and caters to the latest syllabus prescribed by CBSE for Subject Code 402.

This book introduces the students to the basics of **Employability Skills**. Besides providing the basics of **Keyboarding Skills**, the book also covers **Office Tools – Writer, Impress, and Calc** using **Libre Office**.

Objective and **Subjective** exercises have been incorporated in this book to impart knowledge based learning.

To enhance the practical aspects of the theoretical knowledge, **Lab Activities** have been given at the end of each session.

Practically, this book provides every ingredient to kindle scholastic and co-scholastic urge within a students which is an effort to incorporate holistic education in the school curriculum.

We are quite optimistic that this book will prove to be a boon to the students and will serve as a perfect teaching and learning tool for both the students and teachers.

To improve this book further, suggestions are welcome at info@kips.in.

Kips Content Development Team

IT PERSONALITIES



Bill Gates: He is the co-founder of **Microsoft**, and one of the richest persons in the world.



Satya Narayana Nadella: He is an Indo-American business executive and the current **Chief Executive Officer** of Microsoft.



Larry Page and Sergey Brin: They founded **Google**—the most famous Search Engine on the Internet.



Sundar Pichai: He is the **CEO** of **Google Inc.** His successful innovative efforts include Google Chrome, Google Drive, Gmail, Google Maps, etc.



Jan Koum and Brian Acton: They are the founders of **WhatsApp Inc.**—the most popular messaging app.



Mark Zuckerberg: He is the co-founder of **Facebook**—the most popular social networking site. He is the world's second youngest self-made billionaire.



Tim Berners-Lee: He is an English Computer Scientist; well known as the inventor of **World Wide Web**.



Michael S. Dell: He is the founder and **CEO** of **Dell Inc.**—a world leader in the sales of personal computers (PCs).

Syllabus

INFORMATION TECHNOLOGY (402)
SESSION 2019–20
JOB ROLE: Domestic Data Entry Operator

	Units	No. of Hours for Theory and Practical 200	Max. Marks for Theory and Practical 100
Part A	Employability Skills		
	Unit 1: Communication Skills–I	10	10
	Unit 2: Self-Management Skills–I	10	
	Unit 3: ICT Skills–I	10	
	Unit 4: Entrepreneurial Skills–I	15	
	Unit 5: Green Skills–I	05	
	Total	50	10

Part B	Subject Skills	Theory Periods	Practical Periods	Marks
	Unit 1- Introduction to IT-ITeS industry	2	4	4
	Unit 2- Data Entry & Keyboarding Skills	4	10	6
	Unit 3- Digital Documentation	10	26	10
	Unit 4- Electronics Spreadsheet	18	35	10
	Unit 5- Digital Presentation	10	31	10
	Total	44	106	40
Part C	Practical Work			
	Practical Examination			15
	Written Test			10
	Viva Voce			10
	Total			35
Part D	Project Work/Field Visit			
	Practical File/ Student Portfolio			10
	Viva Voce			05
	Total			15
	Grand Total (Periods)	50+44+106=200	Total Marks	100

CONTENTS

Pages

PART-A EMPLOYABILITY SKILLS

UNIT-I COMMUNICATION SKILLS

Chapter 1 :	Communication Cycle	8
Chapter 2 :	Various Methods of Communication	13
Chapter 3 :	Perspectives in Communication	19
Chapter 4 :	Basic Writing Skills	24

UNIT-II SELF-MANAGEMENT SKILLS

Chapter 5 :	Importance of Self-Management	40
Chapter 6 :	Building Self-Confidence	47

UNIT-III INFORMATION AND COMMUNICATION TECHNOLOGY SKILLS

Chapter 7 :	Introduction to ICT	54
Chapter 8 :	Components of Computer System	58
Chapter 9 :	Peripheral Devices	63
Chapter 10 :	Basic Computer Operations	69
Chapter 11 :	Operating Systems	73
Chapter 12 :	Introduction to Internet	78
Chapter 13 :	Introduction to E-mail	81
Chapter 14 :	Introduction to Social Media	85

UNIT-IV ENTREPRENEURIAL SKILLS

Chapter 15 :	Types of Business Activities	94
Chapter 16 :	Characteristics of Entrepreneurship	103

UNIT-V GREEN SKILLS

Chapter 17 :	Environment Protection and Conservation	113
Chapter 18 :	Importance of Green Economy	123

PART-B SUBJECT SKILLS**UNIT-I INTRODUCTION TO IT-ITeS INDUSTRY**

Chapter 1 : Applications of IT in ITeS Industry 131

UNIT-II DATA ENTRY AND KEYBOARDING SKILLS

Chapter 2 : Using Data Entry Tools 148

Chapter 3 : Getting Started with Typing Software 155

UNIT-III DIGITAL DOCUMENTATION

Chapter 4 : Getting Started with a Word Processor Application 173

Chapter 5 : Editing a Document 182

Chapter 6 : Formatting a Document 190

Chapter 7 : Creating and Using Table 214

Chapter 8 : Printing a Document 218

Chapter 9 : Using Mail Merge 221

UNIT-IV ELECTRONIC SPREADSHEET

Chapter 10: Creating a Spreadsheet 231

Chapter 11: Editing Data in a Spreadsheet 240

Chapter 12: Formatting Data in a Spreadsheet 259

Chapter 13: Cell Referencing 267

Chapter 14: Introduction to Charts 270

UNIT-V DIGITAL PRESENTATION

Chapter 15: Characteristics of a Good Presentation 281

Chapter 16: Getting Started with LibreOffice Impress 284

Chapter 17: Working with Slides 292

Chapter 18: Working with Tables 305

Chapter 19: Inserting and Formatting Image in a Presentation 310

Chapter 20: Working with Slide Master 316

SAMPLE PAPER 326

PROJECT WORK 330



EMPLOYABILITY SKILLS

UNIT - I:

Communication Skills

UNIT - II:

Self-Management Skills

UNIT - III:

Information and Communication Technology Skills

UNIT - IV:

Entrepreneurial Skills

UNIT - V:

Green Skills

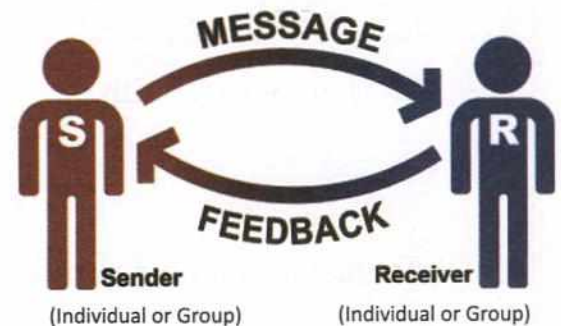
Communication Cycle

Communication is the process of transferring or sharing of information between two or more people. It is a two-way process of reaching mutual understanding, in which participants not only exchange information, news, ideas, and feelings but also create and share a new meaning.

The scope of communication is not limited to only two or more people, instead, it involves the whole society. Man is a social animal, and he cannot remain in isolation. It is his basic need to interact with others. Communication is the foundation of all human relationships. We communicate every day with our family, teachers, friends, and pets. The need for communication has evolved from the stage of early humans and sign language which contributed to the development of verbal and written messages. We have now reached the age of satellite and computer technology which has brought about a revolution in the field of communication.

COMMUNICATION : A TWO-WAY PROCESS

Communication is a two-way process. Communication is not merely the transmission of a message; it also includes an understanding of the message. In this process, one person is the sender, and he conveys a message to another person or a group of persons who is the receiver. When the receiver gets the message, he sends back a response, acknowledging the message was received. So, effective communication always involves feedback from the receiver.



An **effective communication** is a communication between two or more people where the intended message is successfully delivered, received, and understood.

FEATURES OF EFFECTIVE COMMUNICATION



- ✦ Communication is a meaningful process that involves a sender and a receiver. While communicating, both should share a mutually accepted code, i.e., a common language.
- ✦ A message should be clear. It should convey the right meaning to others.
- ✦ Listening to others is a very important aspect of effective communication.

- ✦ Communication is a process in which there is an input and an output. A meaningful communication results in a response from the receiver.

IMPORTANCE OF COMMUNICATION SKILLS

Effective communication is essential in every sphere of life, be it personal, professional, or social. It includes all the aspects of visual, auditory, and body language to appeal to the listener.

The following story illustrates the importance of clear and comprehensive communication.



A father planned an urgent trip to his son's home in another state. He sent an e-mail to his son. In the mail, he wrote 'Reach Tomorrow' instead of 'Reaching Tomorrow', by mistake. When the father reached his son's home, his daughter-in-law was surprised to see him because the son had already left to visit his father. The daughter-in-law showed him the e-mail which stated 'Reach tomorrow' instead of 'Reaching tomorrow'.



The three missing letters 'ing' created miscommunication and a big confusion. Instead of receiving the message that the father was arriving the next day, the son got the message that his father was asking him to come the next day. This example illustrates the importance of sending (coding) a message and receiving (decoding) a message accurately. Miscommunication can cause serious problems. It can have far-reaching consequences, resulting in loss of time, money, trust, and may also impact relationships.

IMPACT OF EFFECTIVE COMMUNICATION ON OUR LIVES

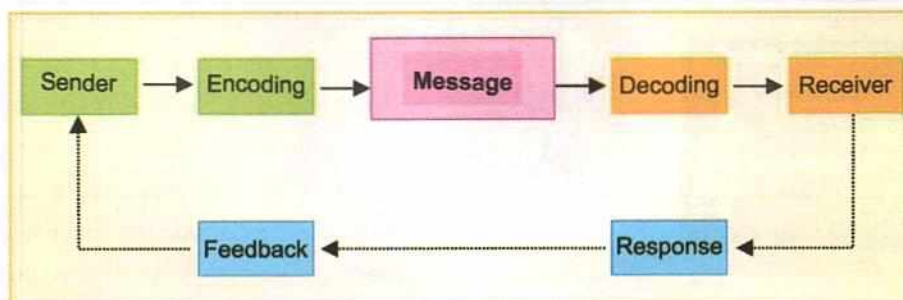
- ✦ It encourages active participation in group discussions and cohesive teamwork.
- ✦ It helps in building relationships with others.
- ✦ It enables a leader to cultivate a sense of common goal among the team members and drive them to work in a spirited manner.
- ✦ Ability to communicate effectively builds your confidence and equips you to respond and articulate aptly in any situation.
- ✦ Effective communication helps in handling various conflicts or misunderstanding in an organisation.
- ✦ Effective communication saves time and reduces stress and anxiety levels.
- ✦ It fosters success in professional and personal life.



ELEMENTS OF COMMUNICATION CYCLE

As mentioned above, communication is a dynamic, two-way process. The essential elements of the communication process are:

- ✦ **Message:** Information to be conveyed
- ✦ **Encoding:** Formation of the message
- ✦ **Receiver:** One who receives the message
- ✦ **Feedback:** Response
- ✦ **Sender:** One who sends the message
- ✦ **Communication Channel:** Medium
- ✦ **Decoding:** Interpretation of the message



Communication Cycle

Sender: A sender is an individual or a group, who has an idea or information which he wants to communicate with others. The sender selects the channel based on factors like nature of the message, the kind of the audience (receiver), and the situation. The sender becomes the source of the message. In the previously given example, the father is the sender.

Message: It is the encoded idea sent by the sender. The message could be verbal (written or spoken) or non-verbal (such as body movements, gestures, facial expressions, eye contact, tone of voice, etc.). The message in the example is what the father wanted to convey, i.e., 'Reach Tomorrow'.

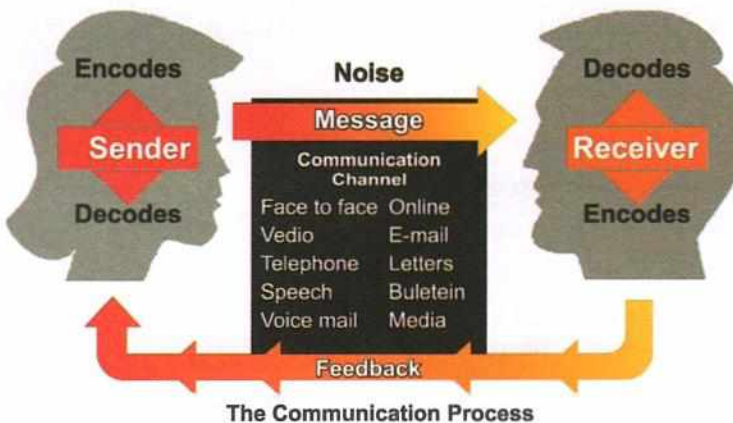
Encoding: Translation of an idea into a message by the source is called encoding. The message may be encoded in any combination of mutually understood words, signs or symbols. The symbols or signs used must be clear to both the sender and the receiver. While encoding a message, one needs to consider what content to include, how the receiver will interpret it, and how it may affect one's relationship. Thus, encoding is guided by the nature and the purpose of the communication as well as the relationship between the sender and the receiver. Encoding in this example is transcribing the e-mail.

Communication Channel: This is the means through which the message travels from the source to the receiver. Channels could be either oral or written. However, with the advancement in technology, visual channels are now becoming more common. The standard channels these days include-video conferencing, video chat, telephone, etc. Written forms include text messages, memos, letters, reports, e-mails, fax, etc. In the example, the message is sent through an e-mail which is a transmission channel.



Receiver: The person or group that receives the message is known as the receiver. The receiver is the one who decodes or interprets the message. It is important to note that the meaning of the communication is what is interpreted, and not what was intended. Any error on the part of the receiver may make the communication ineffective. In this story, the son is the receiver.

Decoding: It is the process of deriving meaning from the received message. The message should be worded carefully, so that the receiver easily understands it. If the message is encoded while keeping the receiver in mind, it will be easier to decode it. For example, the words and tone you choose to express your thoughts to a friend will be different from what you choose for your parents and teachers. This is because you know they will interpret or receive the message differently. In the example, decoding is son's interpretation of his father's e-mail.



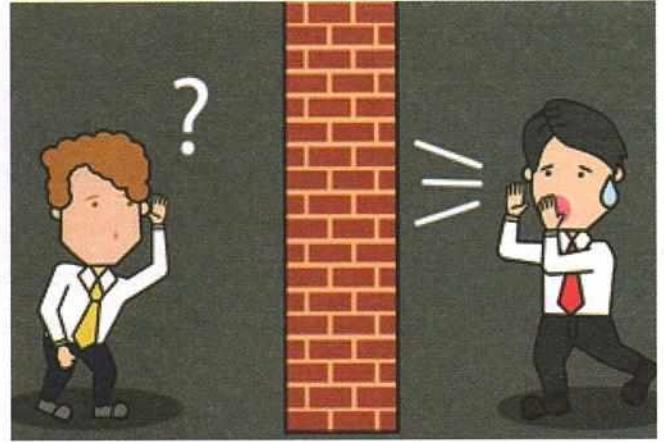
Feedback: The cycle of communication is complete when the sender receives the feedback from the receiver. Without feedback, the sender cannot confirm if the receiver has interpreted the message correctly. Feedback is also given and received to improve behaviour and performance. A constructive feedback informs and motivates people to improve themselves. In the given example, feedback was missing, that is why the communication cycle broke down in this case.

The entire cycle of communication will start all over

again if the sender feels that the message was not understood correctly. This can be easily understood with the given communication process.

BARRIERS TO EFFECTIVE COMMUNICATION

A barrier to effective communication is any factor, individual, situational, or environmental, that prevents the receiver from receiving and understanding the message accurately. These barriers can lead to misunderstanding and confusion between a sender and a receiver. Some of the significant barriers are guided by the nature and purpose of communication as well as the relation between the sender and receiver.



Environmental Barriers: These are the physical conditions that affect the communication process. For example, defective instruments, poor lighting, uncomfortable seating arrangements, and unhygienic room conditions distract listeners.

Situational Barriers: The factors like distance, noise, and distractions cause unnecessary disruption in the communication process. For example, loud music and noise from generators or other machinery.

Individual Barriers: Some of the individual barriers are as follows:

- ✦ **Attitudinal:** Factors like age, gender, lack of interest, discomfort with the topic, culture, and socio-economic or professional status define how a listener perceives and interprets the message.
- ✦ **Linguistic Ability:** Speech disorders or other physical disabilities can distort the communication process. Additionally, the lack of proficiency in the language affects the interpretation of the message as well.
- ✦ **Inattention:** If the listener is preoccupied or distracted or just not interested in the conversation, he will likely be not attentive. It may result in an adverse effect on the outcome of the communication.
- ✦ **Emotional State:** Emotions of the sender at the time of encoding may result in the usage of wrong words or tone that may lead to miscommunication. Likewise, the receiver may misinterpret the message due to his emotions.



ACTIVITY ZONE

Let's Play Chinese Whisper

Play Chinese whisper in the class. The teacher will whisper a phrase in the first student's ear, and the student will whisper the same phrase in the next student's ear, and so on. The last student who hears the phrase will say it out loud.

- ✦ Is the phrase told by the teacher same as the one interpreted by the last student?
- ✦ Discuss how the message changed as it travelled from one source to another.





ASSESSMENT TIME

A. Fill in the Blanks:

1. Without the sender cannot confirm if the receiver has interpreted the message correctly.
2. Physical conditions that affect the communication process are called barriers.
3. The is the means through which the message travels from the source to the receiver.
4. The is the one who decodes or interprets the message.
5. to others is a very important aspect of effective communication.

HINTS

- Feedback • Receiver • Environmental • Listening • Communication channel

B. Answer the Following Questions:

1. What is communication?
2. What are the features of effective communication?
3. List the barriers to effective communication. Explain any two.
4. Sidhant is preparing for his first campaign speech. Advise him about the possible barriers to effective communication and how can he avoid them?



ACTIVITY ZONE

Let's Use Creativity

- A. Draw a diagram of the Communication Cycle and explain it orally.
- B. Role Play the following situations in the class:

Situation 1: Two classmates are conversing over the telephone. The caller was absent from the school due to illness and calls up his classmate to find out what lessons were taught and what homework was given in every subject.

Situation 2: A student is introducing himself by highlighting his interests, hobbies, strengths, and weaknesses.

Situation 3: You are conversing with your friend, and you are interested to know that how was his trip to the wildlife sanctuary.



GROUP DISCUSSION

Divide the class in two groups and conduct a group discussion on the topic, **Various barriers to effective communication and their impact on the communication cycle.**



Various Methods of Communication

Communication means exchanging ideas, opinions, or information among people. People use different methods of communication to express themselves. The choice of the method depends on various factors, such as the urgency of the message, the time availability, the expenditure involved, the intellectual and emotional level of the sender and the receiver.

METHODS OF COMMUNICATION

There are three basic methods of communication:

1. Verbal
2. Non-verbal
3. Visual

VERBAL COMMUNICATION

Verbal Communication involves the use of words in delivering the intended message. Words are the most accurate and powerful tools to express and share ideas.

There are two primary forms of verbal communication.

- ✦ Oral communication
- ✦ Written communication

ORAL COMMUNICATION



The process of expressing information or ideas through spoken words is known as **Oral Communication**.

Oral Communication is a more natural form of communication than the written form. The most significant advantage of oral communication is that it provides immediate feedback and clarification. Both, the speaker and the listener take turns to speak and enter into a kind of dialogue to make the whole communication process purposeful. It is a time saving and useful tool. It lends a personal touch to the entire interaction. Telephonic conversation,

Video-conferencing, voice mails, general conversation, speeches, meetings, seminars, group discussions, etc., come under the category of oral communication. The factors that determine the effectiveness of an oral communication are:

Pace: It means how fast or slow you speak. If the speaker talks too fast, the receiver may not be able to absorb and interpret the message correctly. On the other hand, if the speaker talks too slow, the receiver might lose interest.

Clarity in Pronunciation: It refers to speaking words clearly and correctly, including the correct sounds of the letters with proper emphasis.

Volume/Pitch: It means how loud or soft your voice is. If the speaker talks in loud volume with someone sitting across the table, he may sound dominating, and the receiver might feel detached/unconnected. On the other hand, speaking in a soft voice leads the receiver to think that the speaker is shy or not confident. So, you need to have a balanced tone.



Choice of Words: It refers to choosing the appropriate words while communicating. Consider the following example, where a remark about someone's shoes using two different words leads to entirely different interpretations by the receiver. The table given below lists the comments and the interpretations.



COMMENTS	INTERPRETATION
These shoes are very cheap.	a. The shoes look shabby. b. The shoes are not costly.
These shoes are very economical.	The shoes are not costly.

Therefore, while drafting your message, carefully choose words that communicate your meaning clearly and leave little scope for misinterpretation.

Fluency: It refers to the ability to speak with ease and accuracy in a language. To talk with fluency means that your speech flows well and there are not many interruptions to that flow. It keeps the receiver engaged. For example, too many pauses and words like, um, ah, you know, etc., used by the speaker, may distract the receiver and break the flow of communication.

Length of Communication: The conversation should be simple, short, and to the point. If a speaker talks for a long duration of time about things which are not relevant to the topic, the listeners lose interest in the speech and the purpose of the speech is defeated. On the other hand, a conversation which is short conveys the message clearly and concisely and keeps the listeners engaged.

ADVANTAGES OF ORAL COMMUNICATION

- ✦ It is interpersonal and helps in building relationships.
- ✦ It encourages involvement in team work and decision making process.
- ✦ Oral message provides prompt feedback.
- ✦ It is cost efficient.
- ✦ It is a preferred mode of communication for private or confidential matters.



DISADVANTAGES OF ORAL COMMUNICATION

- ✦ In this form of communication, emotions are visible and hence can lead to miscommunication.
- ✦ It has no legal validity.
- ✦ It does not provide a permanent record and the message can easily be forgotten.
- ✦ It may be difficult for certain people to understand speech due to various accents and pace used in oral communication.
- ✦ This form of communication is not suitable for lengthy messages.



WRITTEN COMMUNICATION

It involves sending messages in the form of written words to convey information. Written communication is the most formal form of communication. It is an innovative activity of the mind that involves a careful choice of words and their placement in the correct order. Examples of written

communication include letters, reports, resumes, brochures, circulars, memorandums, contracts, notices, etc. Nowadays written communication has become shorter and faster. SMS and messengers like WhatsApp, e-mails, social media, etc., are some of the standard mediums of written communication. For effective written communication, the message should be meaningful, concise, and complete.

ADVANTAGES OF WRITTEN COMMUNICATION

- ✦ Written communication allows the sender to thoughtfully draft clear and comprehensive message.
- ✦ Written content has legal validity.
- ✦ It is a suitable mode of communication for lengthy messages.



DISADVANTAGES OF WRITTEN COMMUNICATION

- ✦ Written communication requires time for drafting the message.
- ✦ Written communication may involve postage cost.
- ✦ Written message causes feedback and consequently delays in decision making.

NON-VERBAL COMMUNICATION

Non-verbal Communication means communicating without the use of words, oral or written. It can be effectively used to enhance our verbal communication. It includes our body language, gestures, facial expressions, eye contact, pointing fingers, etc.

Non-verbal signs can convey thoughts and feelings in the absence of verbal communication. How we say something, is often more important than what we say. Research by Albert Mehrabian suggests that non-verbal communication has a more significant impact on the receiver than the speaker's words.

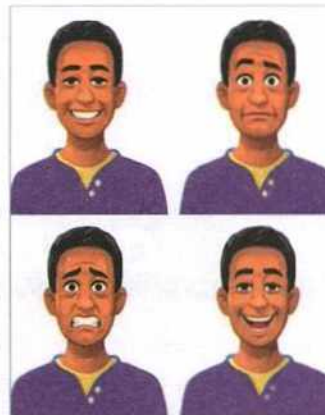


The different elements of non-verbal communication are:

Facial Expression: It is the most noticeable aspect of non-verbal communication. The look on a person's face is often the first thing we see, even before we hear what he has to say.



Gestures: Conscious hand and body movements and signals are an essential way to communicate without words. Some of the common gestures include waving, pointing, and using fingers to indicate numbers. However, some unconscious gestures also convey one's state of mind, for example, glancing at the watch is interpreted as a sign of disinterest or a desire to leave the conversation.



Additionally, different cultures recognise their specific gestures, for example, in India, we fold our hands to greet others and express our regards for others, but this gesture has no significance in other parts of the world.

Voice: Non-verbal speech such as tone, pitch, volume, modulation, rhythm, and rate are essential elements of communication. When we speak, other people read our voices in addition to listening to our words. These non-verbal sounds provide subtle but powerful clues into our true feelings and what we mean. For example, the tone of voice can

indicate sarcasm, anger, affection, or confidence. A loud tone of voice might be interpreted as a sign of approval and enthusiasm, while a soft tone of voice may be construed as a sign of nervousness. Even lack of sound and silence can communicate a lack of interest or understanding or even hard feelings in a face to face discussion.

Body Language: We communicate numerous messages through our body language. Body language includes facial expressions, eye movements, hand gestures, posture, etc. For example, standing erect and leaning forward communicates to listeners that you are approachable and friendly. Using appropriate expressions and gestures strengthen your speech. For example, in a declamation contest, if your body language reflects confidence, your speech will have a greater impact on the audience as well as on the judges.

Eye Gaze: The movement of eyes like looking, staring, and blinking is an essential form of non-verbal communication. Eye gaze also determines if someone is being honest or not. Steady eye contact may be interpreted as the person being truthful and trustworthy.

Physical Contact: Communicating through physical contact is another essential non-verbal behaviour. Sometimes, a touch may be able to express the feelings more effectively than the words. For example, a warm hug from a mother consoles a child, whereas, a firm grip of a mother shows her control to prevent the child from doing something wrong.

Dress and Appearance: In oral forms of communication, the appearance of both the speaker and the surroundings play a vital role in creating an impact on the audience or receiver. For example, a well-dressed person gives an impression of position and power, thus generating respect from others.



ADVANTAGES OF NON-VERBAL COMMUNICATION

- ✦ Non-verbal communication complements a verbal message.
- ✦ Physical gestures greatly help handicapped people, especially deaf people.

DISADVANTAGES OF NON-VERBAL COMMUNICATION

- ✦ It is difficult to analyse a non-verbal message, thus leaving a greater possibility of distortion of information.
- ✦ In non-verbal communication, long conversation and necessary explanations are not possible.



ACTIVITY ZONE

Role Play

Play the game of Dumb Charades. Choose a theme, such as phrases, names of movies, famous personalities, etc. Divide the class into two groups, Group A and Group B. Group A decides upon a word or a phrase as per the selected theme. Group A then calls a member of Group B and tells him the name secretly. This member then has to enact the name through body gestures and signs and his team has to guess the correct name by following the gestures. The person enacting has to follow specific rules. Some of them are:

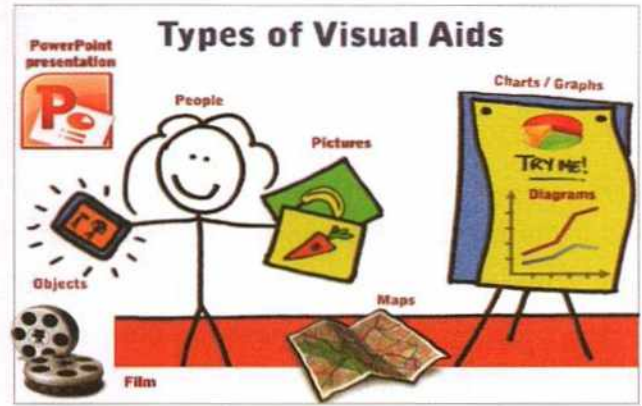
- He cannot speak.
- Certain gestures can be decided beforehand. For example, a thumbs up sign means Hindi language and a thumbs down sign means English language.
- Use fingers to tell the number of words in the name.

VISUAL COMMUNICATION

Any verbal or non-verbal communication utilising the sense of sight is known as **Visual Communication**.

Visual communication skills involve the judicious use of visual aids to make a penetrative and lasting impact on a receiver's mind. Graphs, charts, maps, PowerPoint presentations, overhead projectors, smart-boards, white and black boards, models, paper handouts, etc., are the different types of visual aids that help in conveying a message effectively. For example, an educator can impart knowledge on a particular topic to the students in an effective manner with the help of a smart board, picture, or a diagram.

These visual aids help students to retain information and understand the concept much more clearly and quickly. The use of visual aids grab the attention of the students and keep them engaged.



ADVANTAGES OF VISUAL COMMUNICATION

- ✦ Visual aids like graphs, diagrams, models, etc., make oral communication more meaningful.
- ✦ Use of visual aids makes complex data easy to comprehend.
- ✦ Visual aids make the communication more interesting.

DISADVANTAGES OF VISUAL COMMUNICATION

- ✦ Some of the aids used in visual method of communication are costly.
- ✦ Sometimes visual presentation of information becomes complex.
- ✦ Sometimes visual techniques take much time to communicate.



ACTIVITY ZONE

For Better Concept Clarity

Imagine a situation where a person is on a vacation in a foreign land. He goes on a city tour with a group. Due to some communication gap, he is left behind. He is not well versed with the native language. How will he reach back to his hotel? Which visual aids should he use to reach the hotel?

Thus, we see that skilful use of the three methods of communication strengthens the sender's message and its impact. In some circumstances, they also serve to substitute one another like gestures may be used to replace words, or a phone conversation may replace a face-to-face conversation to add a personal touch to the interaction. As non-verbal cues are absent in written communication, it is important to maintain accuracy, brevity, and clarity. Overall, the most important part is that you need to have awareness about which method is appropriate in a given situation. The chosen method of communication depends entirely on the type of situation that one comes across. A good understanding of the various methods of communication helps in dealing with people in a more effective way.

Jim Rohn rightly says it:

"If you just communicate, you can get by, but if you communicate skillfully, you can work miracles".



ASSESSMENT TIME

A. Fill in the Blanks:

1. is the most noticeable aspect of non-verbal communication.
2. The most significant advantage of oral communication is that it provides immediate
3. The use of grab the attention of the students and keep them engaged.
4. communication is the most formal form of communication.
5. Tone is an example of communication.

HINTS

- Feedback • Facial Expressions • Written • Visual aids • Non-verbal

B. Answer the Following Questions:

1. What are the advantages and limitations of oral communication? Explain with examples.
2. Explain with the help of an example how body language may support or contradict a message.
3. What is the significance of Visual communication?
4. Prateek wants to share the marking criteria for the final project with his team mates. Suggest him the preferred channel for this task and give reasons for the same.
5. Enlist the disadvantages of Non-verbal communication.



ACTIVITY ZONE

Using Creativity

1. Make a PowerPoint presentation on some common body language errors that one should avoid while communicating.
2. Enact a scene in the class where you have to use all three methods of communication.

GROUP DISCUSSION

Divide the class in two groups and conduct a group discussion on the topic, '**How Non-verbal Communication may help or disrupt a communication cycle?**'.



Perspectives in Communication

Mr and Mrs Sharma have just shifted to a new neighbourhood with their son Vivaan. Vivaan has Down's Syndrome (a genetic disorder, which causes a person to have distinct physical features and mental ability). Mrs Sharma takes her son to the park every evening. No child interacts with her son except Rohan. All the mothers except Rohan's mother have told their children not to play or talk with Vivaan fearing that he might get violent with their children. Rohan's mother has read a lot about children with Down's Syndrome. While all the mothers think that children with special needs are prone to violence, Rohan's mother knows this is not true. So without knowing Vivaan, all the mothers have formed the wrong **perspective** about him. This wrong perspective is affecting their communication with the Sharma family.



Let us learn what 'perspective' is, how it is formed, and how it affects our daily life.

|| PERSPECTIVE IN COMMUNICATION

Perspective is an individual's point of view through which we interpret and understand every communication and event happening around us.

Different people have different perspectives as everyone sees things differently from others. We convey and interpret messages through the filters of our knowledge, beliefs, and motives. These filters form the basis of our perspective and reflect the way we see the world, the way we think about the persons we are communicating with, and the way we communicate with them.



|| FACTORS AFFECTING PERSPECTIVES IN COMMUNICATION

VISUAL PERSPECTIVE

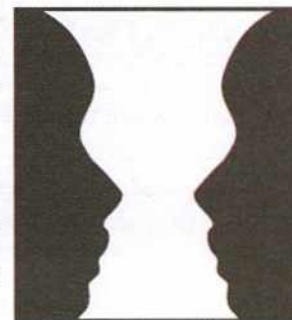
Our brain processes the information seen through the eyes and interprets it. Visual perspective refers to our tendency to focus only on the parts of a scenario that we are most inclined to notice.

Let us understand the concept of visual perspective from the examples given below.

Look at the given figure. What do you see?

The figure has two visual perspectives. One is of two black faces in the foreground with a white background. The other is of a white vase in the front with a black background. We usually see only one of the perspectives at first. The second perspective is visible either after some time or when someone tells us to observe more carefully.

Thus, we see that both the perspectives are valid. Similarly, you must have heard people say 'Beauty lies in the eye of the beholder'. It is not the eyes but the brain that tells us to think of something as beautiful or not. Most of our visual perceptions are judgments that we make about people we are communicating with. Some of the judgments that we make are about:



- ◆ Qualification of the person
- ◆ Mental capability of the person
- ◆ Position and the financial status of the person

LANGUAGE

Perspectives play a role in the interpretation of words as well. Some words can have very different meanings depending how we interpret them.



Larry Barker said 'Effective listeners remember that 'words have no meaning - people have meaning'. The assignment of meaning to a term is an internal process as meaning comes from inside us. And although our experiences, knowledge, and attitudes differ, we often misinterpret each other's messages while under the illusion that a common understanding has been achieved."



Consider this Statement

'The man is fair'.

The statement may be interpreted in two different ways, such as:

The man has fair complexion.

The man is unbiased in his judgement.



Most of the times we think our intended meaning may be clear, but we cannot always be sure that the other person will read or hear the statements in the same way as we meant it.

The interpretation depends upon the meaning or connotation that a receiver associates with the word. Therefore, it is advisable to use words and synonyms that express the exact thought or emotion and leave the least to interpretation.

Let's Discuss

Discuss a few examples to show how an expression can be misinterpreted based on one's perspectives in communication.

PAST EXPERIENCES

We enter a situation or communication with certain expectations of what will happen and behave accordingly. These are based on the filters or perspectives that we have developed due to our past experiences. For example, you are incredibly nervous the first time when you perform on a stage, but after your teacher and classmates appreciate your performance, you are much more comfortable and confident the next time you step on the stage.

More examples of how past experiences affect our behaviour are:



Past Experience	Resulting Effect on Communication
You spoke in the class and the class laughed.	You hesitate in speaking up in the class.
Your classmate refused the last time you asked him to give his Science notebook.	You don't ask him this time, even though he may have agreed this time.

All of us have positive as well as negative experiences throughout our lives. However, we must take care that our past negative experiences do not affect our behaviour or the way we communicate with others. Some negative experiences, however, also serve as a caution, and help us to protect ourselves from dangerous situations.

Let's Discuss

Discuss how your past experiences in the classroom have affected your communication.

ATTITUDE

Attitude is a mindset that decides how an individual perceives an idea or a situation and responds to it. The following example illustrates how our attitude influences our perception.

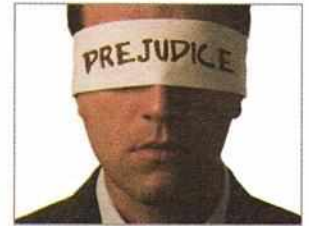
Look at the glass of water, is it half-filled (half full) or half empty?



When looking at the glass of water, there can be two opinions - one stating it as half-full, while the other considering it half empty. These opinions or perceptions depend upon the person's state of mind and his attitude. This example is often used as a metaphor for life to distinguish optimistic people from the pessimistic. Some people focus on the opportunities provided to them and feel grateful, while others choose to focus on the lack of facilities and complain about their life. Thus, people's attitudes define what they perceive and what they experience.

PREJUDICE

Prejudice is an idea or opinion that is not based on fact, logic, or experience. Prejudice is considered a negative attitude, especially when it is related to hatred or intolerance for certain groups of people. Prejudices are partly due to culture and partly due to personal preferences. When we act on our prejudices, then it becomes discrimination. When we discriminate, we make decisions without trying to find all the necessary information about the person or the group that we are judging.



Some examples of prejudices are social status, gender bias, our attitude towards specially abled people, and antipathy towards a particular religion, or a cultural group.

When we categorise people, we do not consider them as individuals. We overlook their individual qualities and therefore fail to understand and appeal to them. Communicating with a person based on our prejudices reduces our chances of having a successful communication and producing desired results. Therefore, while talking, the goal should be to view every person or situation with a new perspective, in spite of the preconceived notions about them.



Example It is a common prejudice among people that women are not physically as strong as men. Today, however, women have proved this notion wrong and are excelling in physically challenging fields like military, law enforcement, sports, etc.

ENVIRONMENT

Do you speak to your parents in the same way that you do to your friend? Are you formal while talking to the people you know well? The answer to these questions would be a 'No'. All of us communicate differently in different environments. For example, some students hesitate to voice their opinions in the classroom, while others thrive on the attention of their classmates. Therefore, while some students enjoy and learn more from classroom discussions, the shy students do not speak up in the class. If the teacher talks to the shy students personally, they are better able to convey their problems and opinions. Recognising how the environment affects your communication with others helps you to understand why someone might be communicating in a particular way. This understanding further helps you to create or choose an environment that is conducive for the specific communication.



For instance, in the above example, if the teacher knows her student's personality, she can hold fruitful discussions in the class and also give personal attention to the shy students.

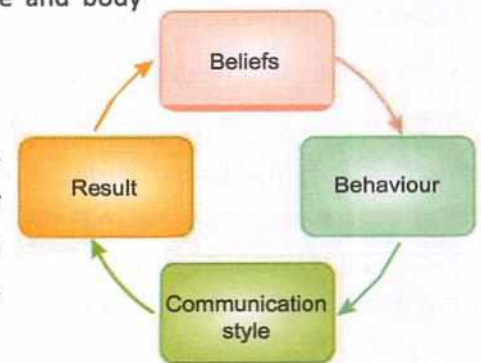
FEELINGS

There are two ways in which your feelings can influence your communication with another person:

- ✦ The first one refers to the way how you feel on a specific day. If you are feeling well, you will communicate as usual, and if you are feeling sick or in a bad mood, you will talk differently. Since your wellbeing changes, it transforms your way of communication on a particular day. Imagine, your teacher snubs you and your friend comes to discuss her weekend plans with you. How would you react? Do you generally respond the same way to such requests from your friends? Your friend, however, may end up feeling hurt. Therefore, if you are finding it difficult to communicate due to illness or other physical or mental stress, acknowledge it. It will help others to understand that the change in your communication style is due to your illness or stress.
- ✦ The second aspect related to feelings refers to how you feel about a specific person. When you genuinely like someone, you communicate with him in a very positive way. However, when you interact with someone you do not like, your style and body language changes.

BELIEFS

Our beliefs form a vicious cycle. Our unique perspectives, with which we interpret any message or event, stems from our belief system. Beliefs shape our behaviour, which in turn affects our communication style. Our communication style elicits responses from others and determines the result of an interaction, and the reactions further reinforce our beliefs.



Let's Discuss

How do you behave in front of a teacher who has a reputation of being very strict?

Let's Discuss

How do you talk to your friends in the presence of your parents and in their absence as well?



Example Rohan believes that nobody likes him. Due to this belief, he does not trust anyone and stays aloof. He usually behaves aggressively because he thinks that this is the only way to show his resentment towards others. Because of this behaviour and communication style, people avoid interacting with him. This response reinforces his belief that nobody likes him.

Therefore, the belief system is a vicious cycle that repeats itself, unless we make a conscious decision and put in disciplined efforts to change it, so that we can think, behave, and communicate in a better way.

Moreover, a change in how we act and communicate will change the way other people treat us.

Dr Eric Berne's theory on **Transactional Analysis** aptly describes the effect of our belief system on our behaviour. This theory outlines how we treat ourselves, how we relate and communicate with others. Dr Berne has proposed four 'life positions' that each of us may take in approaching any interaction.

The four positions are: 'I'm OK: You're Not OK', 'I'm OK: You're OK', 'I'm Not OK: You're Not OK', 'I'm Not OK: You're OK'

These life positions represent combinations of one's attitude about oneself and the other people with whom he is interacting. For example,

I'm not OK - I do not believe in my opinions and decisions.

You're OK - I think you are superior and have better judgment than me.

Therefore, when you approach a situation with the life-position, "I'm not OK - You're OK", you begin by putting yourself in an inferior position. You hesitate to express your opinion or refute others' claims, thereby not contributing to the process in any meaningful way. The following diagram depicts the communication style, behaviour, and possible outcomes of interactions when one approaches interpersonal situations with each one of these life-positions.



Dr. Eric Berne

	I'm OK	I'm not OK
You're OK	<p>I'm OK: You're OK</p> <p>Communication style: Assertive</p> <p>Behaviour: Clear and calm tone</p> <p>Outcome: Most productive</p>	<p>I'm not OK: You're OK</p> <p>Communication style: Passive, Nervous</p> <p>Behaviour: Hesitates to assert ideas, Puts inadequate efforts</p> <p>Outcome: Not productive</p>
You're not OK	<p>I'm OK: You're not OK</p> <p>Communication style: Aggressive</p> <p>Behaviour: Loud and Angry</p> <p>Outcome: Not productive</p>	<p>I'm not OK: You're not OK</p> <p>Communication style: Passive-Aggressive</p> <p>Behaviour: Evades conflict, Does not accept/follow the group's decisions</p> <p>Outcome: Not productive</p>

ASSESSMENT TIME

A. Fill in the Blanks:

- is a negative attitude, especially when it is related to hatred or intolerance for certain groups of people.
- is a mindset that decides how an individual perceives an idea or a situation and responds to it.
- Our also serve as a caution, and help us to protect ourselves from dangerous situations.
- A person with 'I'm OK: You're OK' life-position has an Communication style.
- When we people, we overlook their individual qualities and therefore fail to understand and appeal to them.

HINTS

- Prejudice
- Categorise
- Attitude
- Assertive
- Past Experiences

B. Answer the Following Questions:

- Write two instances where your perspective has influenced your behaviour towards a classmate or a friend.
- Has any of your past experiences affected your communication with others? State how it affected the outcome of the communication.
- How does the environment affect communication? Cite an example.
- Surabhi and her friends are debating about an artwork. Some of them think that it is a jungle scene, while others perceive it as the life journey of a person. Which factor is influencing their perspective towards that artwork?

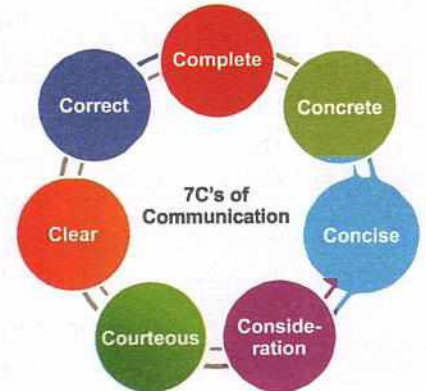
Basic Writing Skills

Written communication is the most effective mode of communication. It is more formal and less flexible than oral communication. The written form is helpful in keeping a record of the conversation for future reference.

The effectiveness of written content depends on the correct choice of words, their organisation into a right sentence sequence, and the cohesiveness in the sentences.

7C's of Communication

There are seven elements of communication which are popularly known as the 7C's of Communication. They are regarded as a checklist that helps to improve the professional communication skills and increase the chances that the message will be understood in exactly the same way as it was intended.



1. **Clear:** The message should not be vague or confusing.
2. **Correct:** The message should be free of any grammatical and spelling mistakes. Also, the facts mentioned in the message must be relevant and accurate.
3. **Complete:** The message should be complete, i.e., it must include all the required information. The complete message answers most of the questions that receivers might have, thus reducing the need for further correspondence.
4. **Concrete:** The content should be supported by facts and figures.
5. **Concise:** The message should be precise and to the point. A short and brief message helps to retain the receiver's attention and saves time.
6. **Consideration:** The sender must take into consideration the receiver's opinions, knowledge, mindset, background, etc., to communicate effectively.
7. **Courteous:** The sender must consider feelings and viewpoints of the receiver while drafting the message.

WRITING SKILLS

To communicate well, we must have a good command over the language in which we are communicating. At the same time, we must take care that there are no grammatical errors in the writing. To improve our writing skills, we will study about the basic components of English grammar and how they should be used effectively.

PHRASES

When we communicate with each other, we express our thoughts and ideas through words. A group of words that make complete sense is called a **sentence**.

Now look at the following group of words:

- ✦ a sweet smelling rose
- ✦ will be going
- ✦ up the mountain
- ✦ behind the cupboard

Do they make complete sense? No, they don't.

Therefore, they are not sentences. These are called **phrases**.

A **phrase** is a group of words that form a unit within a sentence but is incomplete independently. A phrase lacks both the subject and the object.

Examples:

Girl in the brown hat (phrase)

The **girl in the brown hat** looked confused. (sentence)

The phrase in the above example makes complete sense when it is a part of the sentence.

TYPES OF PHRASES

There are different kinds of phrases:

1. A **noun phrase** acts like a noun in a sentence.

Example: He was looking at the painting of a **sailing boat**. (noun phrase - sailing boat)

2. A **verb phrase** is a group of main verbs and helping-verbs within a sentence.

Example: She **had been living** in London. (verb phrase - had been living)

3. An **adjective phrase** is built around an adjective and consists of adjectives and/or articles.

Example: He has led a very **interesting** life. (adjective - interesting, describes the object - life)

4. An **adverbial phrase** is built around an adverb by adding words before or after it.

Example: The economy recovered **very slowly**. (adverbial phrase - very slowly)

5. A **prepositional phrase** always begins with a preposition and is followed by a noun.

Example: I long to live **near the sea**. (prepositional phrase - near, noun - sea)

PRACTICE TIME

Identify the type of phrases given in bold in the following sentences.

- a. The mobile phones are **unexpectedly inexpensive** nowadays.
- b. We **are going to meet** the Chief Minister next week.
- c. I enjoy walking early **in the** morning.
- d. Don't you have a **train to catch**?
- e. Tell **your brothers** not to fight over petty things.
- f. The man reacted **very excitedly** to the news.

SENTENCES

A group of words that makes complete sense is called a sentence. A sentence must contain a subject and a predicate.

Examples:

colour blue favourite is my. (makes no sense, therefore it is not a sentence)

My favourite colour is blue. (makes sense, therefore it is a sentence)

KINDS OF SENTENCES

There are four kinds of sentences:

1. Assertive or declarative sentence (a statement)
2. Imperative sentence (a command)
3. Interrogative sentence (a question)
4. Exclamatory sentence (an exclamation)

1. An **Assertive sentence** is a sentence that states a fact. Such a sentence is a simple statement that indicates, asserts or declares something.

Examples:

Jane is a student. She lives in a big city.

I saw my friend in the market.

2. An **Imperative sentence** is a sentence which gives a command, makes a request, or expresses a wish. This type of sentence may end with a full stop or an exclamation mark.

Examples:

Go to your room. (an order)

Please lend me your book. (a request)

Have a good time at the picnic! (a wish)

3. An **Exclamatory sentence** is a sentence that expresses sudden and strong feelings, such as surprise, wonder, pity, sympathy, happiness, or gratitude.

Examples:

What a shame!

Bravo! Well done!

4. An **Interrogative sentence** is a sentence that asks a question.

Examples:

What is your name?

Where do you live?

PRACTICE TIME

Read the following sentences and state their type.

1. I didn't have time to finish my homework last night.
2. Harry, try the other door.
3. I love you so much!
4. I am ten years old.
5. What a beautiful painting!
6. Stay in your seat.
7. Are you ready to go?
8. Please pass the salt.

PARTS OF SENTENCE

Every complete sentence contains two parts: a Subject and a Predicate.

A subject is a word or a group of words which conveys the names of persons or things about whom or which we are speaking.

A predicate, on the other hand, is the part of a sentence which contains a verb and states something about the subject.

Let us learn more about subject and predicate through the following sentences:

The book fell off the table.

In this sentence, '**The book**' is the subject because something is being said about it and '**fell off the table**' is the predicate because that is being said about '**The book**'.

The subject in a sentence usually comes first. However, in certain cases, it is placed after the predicate for the sake of emphasis. For example:

Down went the ship.

To determine a subject in a sentence, ask '**who**' and the answer would be the **subject**.

On the contrary, ask '**what**' about the subject, and the answer would be the **predicate**.

In the sentence given above, when you ask who, the answer is - **the ship**. This is the subject. When you ask what, the answer is - **went down**. This is the predicate.

In imperative sentences, the subject is not explicitly stated; rather it is implied. Look at the given sentence.

Sit down.

In this sentence, the subject '**you**' is implied.

RULES FOR WRITING A SENTENCE

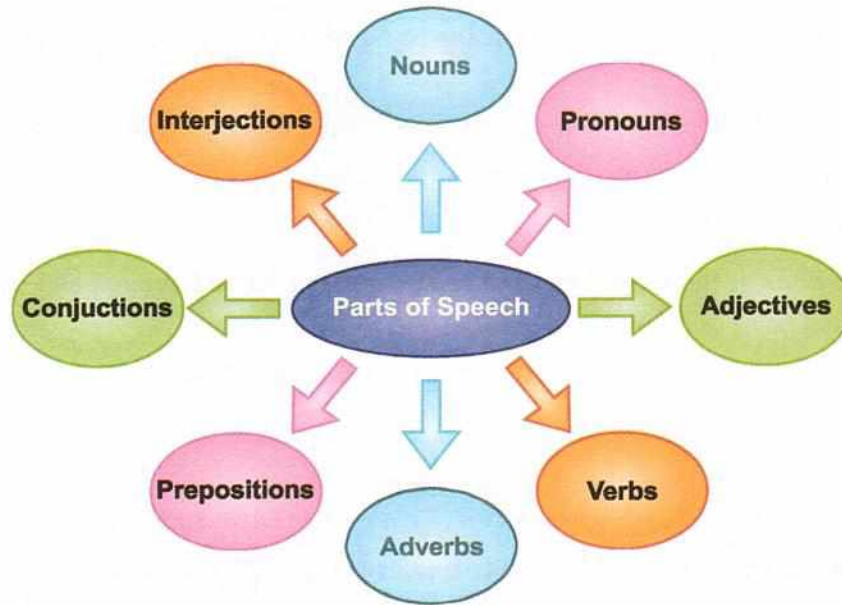
- ✦ Use short sentences
- ✦ Limit sentence content
- ✦ Economise on words
- ✦ Arrange the sentences in a proper sequence
- ✦ Design sentences to emphasise the topic

PRACTICE TIME

In each of the following sentences, circle the subject and underline the predicate.

1. An unusual event occurred at our beach last summer.
2. Two girls were jogging along the beach.
3. They heard a strange sound.
4. Thrashing around in the water was a dark object.
5. A helpless dolphin was being tossed around by the waves.
6. The worried joggers called the Centre for Coastal Studies.
7. Two dolphin experts soon arrived at the beach.
8. They moved into the cold surf near the dolphin.
9. The healthy dolphin was released into the ocean several months later.
10. Have you ever been to the ocean?

Each word in the English language belongs to a particular class or part of speech. There are eight parts of speech in English grammar.



NOUN	PRONOUN
<p>Refers to a word that is used to name a person, a thing, an animal, a place, or an idea.</p> <p>Examples: Mohit, London, table, hope</p> <p>Ram uses a blue pen to write letters.</p>	<p>Refers to a word used in place of a noun or a noun phrase to avoid repetition.</p> <p>Examples: I, you, it, we, us, them, those, he, she, her, him</p> <p>I want her to dance with me.</p>
ADJECTIVE	VERB
<p>Refers to a word that describes, modifies, or gives more information about a noun or a pronoun.</p> <p>Examples: cold, happy, young, two, fun</p> <p>The little girl has a pink hat.</p>	<p>Refers to a word that shows an action or a state of being. It can show what someone is doing or did.</p> <p>Examples: go, speaking, lived, been, is</p> <p>Listen to the word and then repeat it.</p>
ADVERB	PREPOSITION
<p>Refers to a word that modifies the meaning of a verb, an adjective or another adverb, expressing manner, place, time, or degree.</p> <p>Examples: slowly, very slowly, well, too</p> <p>Yesterday, I ate my lunch quickly.</p>	<p>Refers to a word that shows the relationship of a noun, noun phrase, or pronoun to another word.</p> <p>Examples: at, on, in, from, with, about</p> <p>I left my keys on the table for you.</p>
CONJUNCTION	INTERJECTION
<p>Refers to a word that joins two words, ideas, or phrases together and shows how they are connected.</p> <p>Examples: and, or, but, because, until, if</p> <p>I was feeling hot and tired but I still finished my work.</p>	<p>Refers to a word or phrase that expresses a strong emotion. They are usually followed by an exclamation sign '!'. Examples: Ouch! Hey! Wow! Oh! Ugh!</p>

PRACTICE TIME

Read this story and identify the parts of speech for the words given in bold.

Once when Winston Churchill **was** the prime minister of **Britain**, he called a taxi and told the **driver** to take him to the BBC studio.

"**I am sorry, Sir**", said the driver, who **failed** to **recognise** him. "I can't go that **far**. Mr. Churchill is to give a **speech** in an hour and I want to go home **to** hear him".

Churchill was so pleased that he gave **him** a **one-pound** note. "**Oh**, how **kind** you are!", said the taxi-driver. "Get in, Sir. I'll take you wherever you want to **go**. I don't care **for** Churchill's speech."

was I failed speech oh
Britain am recognize to go
driver sorry far him for

ARTICLES

An article is a word used to modify a noun, which is a person, place, object, or idea. There are two different types of articles that are used in writing and conversation to point out or refer to a noun or a group of nouns:

- ✦ Indefinite Article
- ✦ Definite Article

INDEFINITE ARTICLES - A AND AN

'A' and 'An' are the two forms of the **indefinite article**. As a determiner, these articles are used before Singular Countable Nouns (SCN). The main function of the indefinite articles is to indicate that the noun they precede does not refer to any particular person or thing. Usually, these articles are used to introduce new concepts. For example, 'a teacher' refers to any teacher and not a specific teacher.

Rules for using the indefinite article (a/an)

'a' is used:

- ✦ Before a singular, countable noun when it is mentioned for the first time.

Example:

I saw **a** lion in the zoo today.

- ✦ Before a singular countable noun or adjective beginning with a consonant sound.

Examples:

I saw **a** movie.

She found **a** book.

He ate **a** banana.

A beautiful flower.

- ✦ To express quantity.

Examples:

a lot of; a bit of; a few; a little

- ✦ In certain exclamatory expressions.

Examples:

What **a** beautiful shot!

What **a** pity!

'an'

'an' performs the same function as 'a' but 'an' is used before singular countable nouns which begin with a vowel sound (a, e, i, o, u).

Examples:

He ate **an** apple. I want to eat **an** orange.
She works as **an** actor. Carry **an** umbrella to the market.

DIFFERENCE BETWEEN 'A' AND 'AN'	
'a' and 'an' have the same meaning. 'a' and 'an' both are indefinite articles. The difference depends on the sound at the beginning of the next word.	
Use 'a' when the next word starts with a CONSONANT SOUND . Examples: a book a frog a car a lemon a dog a truck	Use 'an' when the next word starts with a VOWEL SOUND . Examples: an apple an orange an egg an umbrella an insect an actor

REMEMBER

The initial sound is important, not the spelling.

The following words begin with vowel letters but not vowel sounds. Therefore, they have the article 'a' before them.

Examples:

a university (The **U** at the beginning of university sounds like **You**.)
a one rupee note (The **O** at the beginning of one sounds like **W**.)
a European (The **E** is silent and the **U** sounds like **You**.)
a unit (The **U** at the beginning of unit sounds like **You**.)

✦ The following words begin with consonant letters but have vowel sounds. Therefore, they have the article 'an' before them.

Examples:

an hour, an heir (The **H** at the beginning of hour and heir is silent.)
an MP, an SP (The **M** and **S** sound like **Em** and **Es** respectively.)

✦ If a singular countable noun is preceded by an adjective, a or an is used before the adjective, according to its initial sound.

Examples:

He is **an** honest man. It is **a** useful book.

NOTE

The indefinite article is not normally used before uncountable nouns, such as water, sugar, wheat, iron, music, beauty, etc. Therefore, we do not say 'I had a water' but we can say 'I had a glass of water' since glasses can be counted.

DEFINITE ARTICLE - THE

The definite article, 'the' can be used with both countable nouns-singular as well as plural-and uncountable nouns. Its main use is to specify a person, place, or thing. It is used when the noun that follows is already known.

Example: There is a duster on my desk. Get me the duster.

'The' is used before

✦ A singular noun when it refers to a particular class or group.

Example: The bicycle is a common man's vehicle.

✦ The names of rivers, mountain ranges, gulfs, seas, oceans, groups of islands, names of ships, etc.

Examples: the Ganga; the Himalayas; the Indian Ocean

✦ The names of countries in plural.

Examples: the United Kingdom; the United States of America

✦ The names of religious books.

Examples: the Ramayana; the Vedas; the Gita; the Bible

✦ Hotels, museums, and certain buildings.

Examples: the Ashoka Hotel; the Central Bank; the Ministry of Defence; the Taj Mahal; the Red Fort

✦ The names of newspapers and magazines.

Examples: the Tribune; the Times of India

✦ The superlatives of adjectives.

Examples: the best boy; the worst thing

✦ Descriptive adjectives referring to a whole group or class.

Examples: 'the rich' refers to people who are rich; 'the poor' refers to poor people.

✦ Names of races and communities.

Examples: the Sikhs; the Chinese; the English

✦ Uncountable nouns.

Example: I like to run in the grass.

Do not use 'the' before: abstract nouns, plural nouns, proper nouns, names of materials, meals, colours, names of games, when used in general sense.

Examples:

- ✦ Gold is a precious metal. (Name of the material)
- ✦ Children like chocolates. (Plural noun)
- ✦ Ram is leaving tonight. (Proper noun)
- ✦ Dinner is ready. (Dinner is a meal)
- ✦ Virat Kohli plays cricket. (Name of the game)

We do not use the with some expressions, such as: all day, all night, by train, by air.

PRACTICE TIME

A. Fill in the blanks with the appropriate article, a, an, or the. If no article is needed, leave the space blank.

1. I want apple from that basket.
2. church around the corner is beautiful.
3. Mohit speaks Punjabi.
4. I borrowed pencil from your pile of pencils and pens.
5. One of the students said, "..... professor is late today".
6. I bought umbrella to go out in the rain.
7. My daughter is learning to play violin at her school.
8. Please give me cake that is on the counter.
9. I lived on Main Street when I first came to town.
10. apple a day keeps the doctor away.

B. In each of the following sentences, there is an error in the use of articles. Underline the incorrect word and then rewrite the sentences using correct articles.

1. A Chinese have decided to choose an national flower but they are divided on a choice.
.....
.....
2. Some favour a pansy while others prefer an plum blossom.
.....
.....
3. Since both flowers have their admirers, it is going to be an close contest.
.....
.....

PARAGRAPH WRITING

In the English language, the fundamental unit of composition is a paragraph. A paragraph consists of several sentences that are grouped together and discusses one main subject. Thus, a paragraph is essentially a collection of sentences that all relate to one central topic.

Before you begin writing your paragraph, you must have a clear idea of what the paragraph is going to be about, i.e., you should have a topic to write on. Without a definite idea of what the main topic is, your paragraph will lack focus, clarity, and unity.

Think about the topic on which you want to write. Consider, the most relevant ideas or issues relating to that topic is. As paragraphs are usually short, it is essential that you try to touch upon all the main ideas, without going off the subject and maintaining the length of the paragraph.

HOW TO WRITE A GOOD PARAGRAPH

Listed below are some of the sections you must take care of, when writing a paragraph.

Topic of Paragraph

First, decide the topic about which you are going to write the paragraph.

Introduction/Topic Sentence

Make one sentence that tells about the topic which will feature in the rest of the paragraph. This is called a '**topic sentence**', which works as an introduction to your paragraph. Good topic sentences should always contain a topic and a controlling idea.

The **topic** is the main subject matter or idea covered in the paragraph. The **controlling idea** focuses on the topic by providing direction to the composition.

Example: People can avoid accidents on road by taking certain precautions.

(In the above example, topic sentence is 'accidents on road' and controlling idea is 'taking certain precautions'.)

Support/Explanation

After stating the topic sentence, provide information in 7-8 sentences to explain and clarify more about the topic.

Conclusion

After illustrating your point with relevant information, add a concluding sentence that summarises the points made in the paragraph.

Proofread

The last step in writing a good paragraph is proofreading and revision. Before submitting, look over your writing at least one more time. Make sure your paragraph makes sense.

RULES FOR WRITING A PARAGRAPH

- ✦ Give the paragraph unity
- ✦ Keep the paragraph short
- ✦ Make use of topic sentences
- ✦ Leave out unnecessary details
- ✦ Give the paragraph movement
- ✦ End the paragraph with a concluding sentence

A paragraph is usually judged on the following criteria:

1. Introduction (Including Title)
2. Support/Explanation

This is further divided into

- ✦ Content
- ✦ Expression (Fluency, Grammar, and Spelling)
- ✦ Sequencing

3. Conclusion

A sample paragraph is given below:

DISCIPLINE

Discipline means order or code of behaviour. It refers to the ability to control one's own feelings. Life without discipline is meaningless. We need to be guided by rules. Discipline is a must whether we are at school or at home. It is equally necessary whether we are in the office or in the playground. Our life, our society, our country, or even the world will go astray without discipline. So, some sort of discipline is required everywhere. Even the nature follows an order. A small disturbance in the nature leads to chaos. Discipline has to be learnt in every walk of life. At school, the students are taught to behave well. They are taught to respect their elders. Even on the playground, children are taught to follow the rules of the game. Childhood is the most formative period in which the value of discipline can be learnt. Success in life only comes through discipline.

PRACTICE TIME

Develop paragraphs from the given outlines.

A. IMPORTANCE OF THE INTERNET

Network of computer systems using standard communication protocols large volume of precious and useful information service provided by both-government and private organisations provides the most exciting mode of communications can send an e-mail to anyone across the globe..... low cost of sending an e-mail collect information from various websites on different subjects education, medicines, literature, software, computers, business, entertainment, friendship and leisure newspapers, magazines and journals from any country of the world are available on the Internet endless possibilities.

B. DRUG ADDICTION

Can destroy lives serious health issue affects addicts, their families and society severe physical effects on the addict's body experience many physical symptoms including sickness, fever, sweats and shakes, loss of appetite and weight face the danger of contracting serious diseases AIDS, hepatitis and other communicable diseases. Families and friends of drug addicts also affected by their addiction leads to serious financial problems, loss of trust family break up and divorce increase in crime rates more security and hospital care needed destructive way to live more should be done something that affects the society as a whole.



A. Multiple Choice Questions:

- The written form of communication is than oral communication.
 - More formal and less flexible
 - More flexible and less formal
 - More flexible and more formal
 - Less flexible and less formal
- The checklist comprising of various elements of communication skills is called
 - 7 E's of communication
 - 5 E's of communication
 - 7C's of Communication
 - 5 C's of communication
- A group of words that make complete sense is called a
 - Phrase
 - Sentence
 - Subject
 - Predicate
- Which of the following is not a kind of sentence?
 - Assertive
 - Interrogative
 - Empirical
 - Exclamatory
- A is the part of a sentence that contains a verb and which states what is said about the subject.
 - Predicate
 - Prefix
 - Preposition
 - Pronoun

B. Fill in the Blanks:

- A word or a group of words which conveys the names of persons or things about whom or which we are speaking is called the
- An sentence gives a command, makes a request, or expresses a wish.
- A complete sentence consists of a subject and a that describes the subject.
- A word that describes, modifies, or gives more information about a noun or a pronoun is called an
- The sentence that summarises the main points made in a paragraph is called sentence.
- An is a words or a phrase that expresses a strong emotion.

HINTS

Subject
 Interjection
 Predicate
 Imperative
 Adjective
 Concluding

C. Answer the Following Questions:

- List some of the important elements that make written content effective.

Ans: The effectiveness of written content depends on the correct choice of words, their organisation into a right sentence sequence, and the cohesiveness in the sentences.

- What are the different kinds of phrases?

Ans: There are five different kinds of phrases:

- a. A noun phrase
- b. A verb phrase
- c. An adjective phrase
- d. An adverbial phrase
- e. A prepositional phrase

3. What kind of a sentence asks a question?

Ans: A sentence that asks a question is called an interrogative sentence.

4. List the seven elements of effective written communication.

Ans: The seven elements of effective written communication are:

- a. **Clear:** The message should not be vague or confusing.
- b. **Correct:** The message should be free of any grammatical and spelling mistakes. Also, the facts mentioned in the message must be accurate.
- c. **Complete:** The message should be complete, i.e., it must include all the relevant information. The complete message answers most of the questions that receivers might have, thus reducing the need for further correspondence.
- d. **Concrete:** The content should be supported by facts and figures.
- e. **Concise:** The message should be precise and to the point. A short and brief message helps to retain the receiver's attention and saves time.
- f. **Consideration:** The sender must take into consideration the receiver's opinions, knowledge, mindset, background, etc., to communicate effectively.
- g. **Courteous:** The sender must consider feelings and viewpoints of the receiver while drafting the message.

D. Answer the Following Questions:

- 1. Give one example for each of the four kinds of sentences.
- 2. What are prepositions? Explain with the help of an example.
- 3. What are Interjections? What is their importance in the written form of communication.
- 4. What are indefinite articles in the English language? Where are they used?
- 5. What rules should we follow while writing a paragraph?

E. Application Based Questions:

- 1. Srishti has to write a paragraph on the topic 'Conservation of Environment' for her assignment. She does not remember the assessment criteria for paragraphs. Help her to outline the grading criteria of a paragraph.

.....
.....

- 2. Akshay wrote a sentence, 'I bought a HD television set' in his English test, and the teacher marked it incorrect. Can you help him to write the correct sentence? Tell him the rules that he should follow while using articles in sentences.

.....
.....



Recap



- ★ Communication is the process of transferring or sharing of information between two or more people. It is a two-way process of reaching mutual understanding.
- ★ The essential elements of the communication process are, Message, Sender, Encoding, Communication Channel, Receiver, Decoding, and Feedback.
- ★ Features of effective communication include a mutually accepted code (e.g., common language), clear coding of the message, listening, and appropriate feedback.
- ★ A barrier to effective communication is any factor, individual, situational, or environmental, that prevents the receiver from receiving and understanding the message accurately.
- ★ Various barriers to effective communication include Environmental, Situational, and Individual barriers.
- ★ Personal attitude, Linguistic ability, Inattention, and Emotional state are some of the Individual barriers.
- ★ There are three basic methods of communication: Verbal, Non-verbal, and Visual.
- ★ The process of expressing information or ideas through spoken words is known as Oral Communication.
- ★ There are two primary forms of verbal communication, Oral and Written.
- ★ The factors that determine the effectiveness of an oral communication are, Pace, Clarity in Pronunciation, Volume/Pitch, Choice of Words, Fluency, and Length of Communication.
- ★ Written communication involves sending messages in the form of written words to convey information. Written communication is the most formal form of communication.
- ★ Non-verbal communication means communicating without the use of words, oral, or written.
- ★ The different elements of non-verbal communication are: Facial Expression, Gestures, Voice, Body Language, Eye Gaze, Physical Contact, Dress and Appearance.
- ★ Any verbal or non-verbal communication utilising the sense of sight is known as Visual Communication.
- ★ Graphs, charts, maps, PowerPoint presentations, overhead projectors, smart-boards, white and black boards, models, paper handouts, etc., are the different types of visual aids.
- ★ Judicious use of visual aids help students to retain information and understand the concept much more clearly and quickly.
- ★ Effective communication encourages participation and team spirit, strengthens relationships, builds confidence, reduces anxiety, and fosters personal and professional success.
- ★ Factors affecting perspectives in communication are, Visual, Language, Past experiences, Attitude, Prejudice, Environment, Feelings, and Beliefs.
- ★ Attitude is a mindset that decides how an individual perceives an idea or a situation and responds to it.
- ★ Prejudice is an idea or opinion that is not based on fact, logic, or experience.
- ★ Theory of Transactional Analysis postulates four life-positions that influence one's behaviour, namely, 'I'm OK: You're Not OK', 'I'm OK: You're OK', 'I'm Not OK: You're Not OK', 'I'm Not OK: You're OK'



SECTION 1: OBJECTIVE TYPE QUESTIONS-(SOLVED)

A. Multiple Choice Questions:

1. A message should be to convey the right meaning to others.
a. Difficult b. Clear c. Complex d. Coded
2. Which of these is not a barrier to effective communication?
a. Hearing and Visual problems b. Noise and Distraction
c. Lack of interest d. Listening attentively
3. Which one of the following is not a method of communication?
a. Verbal communication b. Non-verbal communication
c. Visual communication d. Non-visual communication
4. Examples of Non-verbal communication include
a. Voice mails b. Tone c. Gestures d. Both b & c
5. Perspective is an individual's
a. Belongings b. Point of view c. Future d. Activity

B. Fill in the Blanks:

1. Being means the sender must consider feelings and viewpoints of the receiver while drafting the message.
2. The most formal form of communication is
3. The process of deriving meaning from the received message is called
4. refers to our tendency to focus only on the parts of a scenario that we are most inclined to notice.
5. is an opinion that is not based on fact, logic, or actual experience.

ANSWERS

A. Multiple Choice Questions

1. (b) 2. (d) 3. (d) 4. (d) 5. (b)

B. Give one word answer

1. Courteous 2. Written Communication 3. Decoding 4. Visual Perspective 5. Prejudice

SECTION 2: THEORY QUESTIONS-(SOLVED)

1. Define Encoding?

Ans: Translation of an idea into a message by the source is called encoding. The message may be encoded in any combination of mutually understood words, signs, or symbols.

2. What is a communication channel?

Ans: A communication channel is the means through which the message travels from the source to the receiver. For example, video chat, telephone, text messages, and e-mails.

3. Name the various methods of communication.

Ans: There are three different methods of communication, namely, Verbal communication, Non-verbal communication, Visual communication.

4. What is Visual communication?

Ans: Any verbal or non-verbal communication utilising the sense of sight is known as visual communication.

5. How do past experiences affect our perspective?

Ans: We enter a situation, a conversation, or a communication with certain expectations of what will happen and behave accordingly. These are based on the perspectives that we have developed due to our past experiences.

SECTION 3: SHORT ANSWER TYPE QUESTIONS-(UNSOLVED)

1. What is Effective communication?
2. What do you understand by the phrase 'Barriers to Effective communication'?
3. Define Non-verbal communication. List the main elements of Non-verbal communication.
4. Define Verbal communication. What are the two forms of Verbal communication?
5. Enlist the factors affecting perspective in communication?

SECTION 4: LONG ANSWER TYPE QUESTIONS-(UNSOLVED)

1. State the importance of effective communication.
2. What is Encoding? What is its significance in the communication cycle?
3. What do you understand by written communication?
4. Discuss the role of non-verbal elements in effective communication.
5. Comment on the statement, 'Our beliefs form a vicious cycle'. Support your answer with an example.

SECTION 5: APPLICATION BASED QUESTIONS-(UNSOLVED)

1. Aryan is preparing for a declamation contest. Help him to prepare a list of all the elements of non-verbal communication that he should consider while giving his speech.
2. You want to get a pet dog, but your elder brother told you that no matter how much you try to convince your parents, they will not allow you to get a dog. What factor do you think contributed to his perspective?
3. Sushant is a new manager, and he wants to share his ideas and working protocol with his team. Compare the advantages and disadvantages of oral and written communication and suggest him which form of communication would be more effective.
4. Mr Sharma is often seen quarrelling with others. He has complaints about everyone in the neighbourhood. Which life-position is influencing his behaviour.
5. Smriti walked into your school and came across your Science teacher, who generally comes well-dressed and looks very confident. Smriti assumed that he is the principal of the school. What factor is affecting her perspective?



Importance of Self-Management

Self-management is managing yourself to achieve the pre-determined tasks or goals that you have set for yourself by regulating your actions, organising your time, and being accountable for your decisions. Appropriate self-management can help students perform better in school, can reduce delinquent behaviours, and can help individuals perform better on the job.

Who manages things in your house? Your mother. She takes care of everything right from cooking, washing clothes, your studies, buying stuff for everyone, and the house. Have you ever wondered how she manages to do so many tasks? She does this by setting a goal - the family's well-being. Then, she identifies the tasks to be completed to achieve that goal. She plans and delegates the responsibilities, and ensures to finish the tasks in time. She recognises the resources she has, such as time, money, help, etc., to complete those tasks and allocates her resources according to the family's priorities. Now, since nobody is directing her to do all of this, she is setting and achieving goals all by herself, she is self-managing. Self-management is a great skill to be developed for life and work. Let us learn how to develop self-management skills.



SELF-MANAGEMENT SKILLS

Self-management comprises three key skills:

1. Initiative
2. Organisation
3. Accountability



INITIATIVE

Initiative means doing the right thing without being told what to do. Initiative requires one to believe in one's own capabilities, and be resilient to work, even when faced with obstruction and disappointment. For example, as a student, you can identify areas of improvement in your school environment, such as apathy and disrespect for teachers, bullying, discipline, cleanliness, etc., and talk to your teachers and the principal about it. You can volunteer to address the issues in the school assembly, educate fellow students and staff, and inspire others to join you to resolve the issue.

ORGANISATION SKILL

Organisation skill is the ability to use your time, energy, and resources effectively to achieve the goals you have set for yourself. Being organised saves your time and energy, helps you to complete tasks efficiently, and therefore makes you more productive. To develop organisational skills, you need to follow the below mentioned steps.

Identify and Define Specific Goals: To achieve a goal, it is important to clearly define your goal. For example, your goal is to have a holistic growth which encompasses intellectual, physical, artistic, emotional, creative, and social development.

Break Down Goals Into Smaller Tasks: To achieve bigger goals, it is essential to break them into smaller, actionable tasks. Adopt the SMART strategy while setting and defining your targets. SMART is an acronym for Specific, Measurable, Achievable, Realistic, and Time-bound. Thus, adopting SMART strategy means you can clarify your ideas, focus your efforts, use your time and resources productively, and increase your chances of achieving what you want in life.



- ✦ **Specific:** A well-defined task helps you to focus your efforts. For example, instead of saying, 'I will cover my syllabus in time', a more specific task would be, 'I will complete Subject 'A' by tomorrow'.
- ✦ **Measurable:** A goal without a measurable outcome is like a sports competition without a scoreboard. Make your progress measurable. For example, rather than saying, 'I will speed up my learning', a more measurable target would be, 'I will solve 20 Math problems in 2 hours'.
- ✦ **Achievable:** Set targets that are realistic and can be achieved. Setting unattainable targets result in a false sense of failure, loss of motivation, and low self-regard. For example, rather than saying, 'I will learn this whole poem in 1 hour', a more achievable target would be to say, 'I will read this poem five times now'.
- ✦ **Realistic:** Devise a realistic plan. For example, rather than saying, 'I will devote 8 hours to my studies after school every day', a more realistic goal may be to say, 'I will study 3-4 hours regularly'.
- ✦ **Time-bound:** A time-bound target informs you whether you are progressing at the right pace or not. For example, rather than saying, 'I will complete this chapter', a time-bound target would be, 'I will finish this chapter by 8 pm'.

Time-Management: It refers to managing time effectively so that the right time is allocated to the right activity. Effective time management allows individuals to assign specific time slots to activities as per their importance. Following steps help in managing your time in the best possible way:

- ✦ **Planning:** An important part of time management is planning. In order to control your workload, it is important to learn to plan each day, week, month, and year. Always be realistic in estimating the time to accomplish the tasks, as it helps you to create effective planning. When you follow your plan, you are more organised. A good work plan enables you to start being realistic about how much work you can take on, how much time it will take, and what activities will it involve. For example, when you get your exam date sheet, prepare a study plan. Write down how many exams you

have and the days on which you have to take them. Then organise your time accordingly. You may want to give some exams more study time than others.

- ✦ **Estimate time required for each task:** Be realistic in estimating the time required to accomplish the tasks as it helps you to plan effectively. For example, if you are participating in a debate contest, estimate how much research time do you need? How long will it take you to write it, proof read it, and practice it?



- ✦ **Prioritise and Schedule:** Prepare your schedule to accommodate the planned tasks and other activities. Write down the important activities that need to be done in a single day against the time that should be allocated to each activity. Prioritise your tasks based on importance and urgency while preparing your schedule. For example, consider your school calendar for exams, weekly and daily assignments, school events, family special events, friends' birthdays, etc. See if you can accommodate all of them, and if you cannot, then choose which ones are more important and which ones you can forego. Make weekly and daily to-do lists accordingly.
- ✦ **Learn to say 'No':** Always refer to your schedule and to-do lists before committing to new projects. One of the reasons we become overloaded is that we have a tendency to say 'Yes' when people ask us to do things. Learn to say 'No' if your schedule does not allow taking on a new responsibility. It is one of the golden rules of time-management. If you find it hard to say 'No', think about the negative consequences of always saying 'Yes'. Analyse what tasks you will have to postpone, to fulfil the new request and how will it affect your bigger goal.
- ✦ **Spending the right time on right activity:** Set a time limit to complete the task. If you set a time constraint on a particular task, it will make you to be more focused and efficient. For example, instead of working on a project and thinking of doing it until it's done, set a limit of, say, 5 hours.



ACTIVITY ZONE

Evaluating Time Management

Identify which statements are befitting you the most. Put a tick (✓) mark in the correct box.

Characteristics	Yes, a lot	Yes, sometimes	No	I don't know
I am late for functions/appointments.				
I miss appointments.				
I rush at the end of a task.				
I miss stipulated target dates.				
I take too long to complete a task.				
I run out of time while completing tasks.				
I am not aware of how long it would take me to complete a task.				
I forget what I have to do.				

SCORING:

- ✦ If your response to all the above statements is 'No', then you seem to have good time-management skills.
- ✦ If your response to some statements is 'I don't know', then you seem to lack awareness about your time-management. Speak to people who know you well and find out what they think about your time-management skills.
- ✦ If your response to any of the above is 'Yes', then that is the specific aspect of time-management you need to work on.

ACCOUNTABILITY

Accountability is a vital component of self-management. Accountability and responsibility are interrelated to each other, but they don't mean the same thing. The main difference between responsibility and accountability is that responsibility can be shared, while accountability is personal. Responsibility for a task may be assigned to you by someone else, like a teacher or a parent, but being accountable means being answerable for your actions. It is the mindset, where a person is expected to take ownership of his actions and not to blame other people or events for delays, failures, and incompleteness. Accountability develops the following characteristics:

i. **Avoiding Procrastination:** Procrastination is defined as the avoidance of doing a task that needs to be accomplished. Procrastination is choosing a different, usually less important and enjoyable task, to avoid doing an unpleasant and more difficult task. However, procrastination not only results in loss of productivity but it also often results in guilt and loss of self-confidence. You can adopt the following strategies to avoid procrastination:

- ✦ Acknowledge that you are procrastinating. The mere acknowledgement helps in curbing it.
- ✦ Refer to your to-do list and remind yourself of your bigger goal. It is advisable to keep your to-do list displayed where you can see it often.
- ✦ Refer to your to-do list often. Promise to reward yourself after completion of the task.
- ✦ Make it a habit of scheduling your more laborious tasks before more enjoyable tasks, so that you can complete them before your energy level goes down in the day. Also, the attraction of doing enjoyable activities will motivate you to finish the difficult tasks in time.



Adopting Problem-Solving Attitude: A problem-solving attitude is a must in every area of life. Despite all the planning, you may face hardships, obstructions, delays, and failures in your life. When such hindrances occur, it is natural for people to get into a **problem-centred** mindset. People try to find the source of the problem and blame other people or events for the delay or failure. However, problem-centred mindset does not help to achieve anything. On the other hand, a **solution-centred** attitude helps one to focus on the possible solutions, which not only lifts the spirit but also resolves the problem and helps you to move towards success.

Managing Your Own Emotions: Emotions always get in the way of rational interpretation of a situation. They usually prevent us from working towards the best or most constructive solutions. Often, people either over-express their feelings (excessive anger, passiveness) or suppress their feelings to cope with the situation. However, different circumstances require different emotional reactions and expressions. Although it is essential to allow yourself to experience and acknowledge your emotions, it is even more important not to act on your emotions instantly. Give yourself time to regain your composure before you act. Although emotions may seem like a natural and uncontrollable phenomenon, however, you can apply reason to change how you feel in a situation, and thereby manage your actions and reactions in a challenging situation.

to apply reason, ask yourself some questions like.

- ✦ What should I do in this situation? Does this action help in fixing the problem?
- ✦ How will my action affect me and other people? How will it affect my bigger, long-term goal?
- ✦ What are the alternative actions I can take that will actually help better this situation?
- ✦ Can I talk to someone who can guide me or help me through this problem?

Coping With Distress: Unforeseen and unfortunate events like illness, injuries, death in the family, or some other tragic event may happen in your life. It may have a significant impact on your emotional and physical well-being. Find a suitable coping mechanism in such circumstances like, surround yourself with people who can provide you with the required emotional and practical support, count your blessings in life, distract yourself with pleasant things, indulge yourself in any physical activity, or draw attention on others' experience to pull yourself out from a depressing situation.

POSITIVE RESULTS OF SELF-MANAGEMENT

Self-management is an essential skill for everyone as it teaches you to be productive, no matter what the circumstances are. As we grow, the demands on our time and efforts increase from all aspects of our life. This 'pull' from all directions brings excessive stress and confusion in our minds. Self-management allows us to set up our priorities, and allocate time, resources, and efforts for activities according to the preferences that we have set. Therefore, it helps us to avoid unnecessary confusion, delays, the stress of pending tasks, and guilt of not being able to attend to important issues. The practice of self-management benefits you in the following five ways:

- ✦ **Makes you more organised:** While planning your schedule like allotting time slots for your studies, relaxation breaks, and other essential activities, you learn the vital skill of organising and allocating all your resources.
- ✦ **Instils discipline:** When you make a schedule and commit yourself to do it in the stipulated time, you reject other unimportant invitations from anyone else. It happens because you are clear that undertaking any unscheduled activity would mean cancelling the scheduled plan and failing to achieve the target.
- ✦ **Helps in attaining goals:** If you make a schedule for exams and follow it in a disciplined way, you will be able to prepare for your exams and attain your set goals.
- ✦ **Enhances self-confidence:** When you set goals and achieve them, that give you the confidence to pursue more significant and more challenging goals. Self-confidence, in turn, gives you the courage to take the initiative wherever there is an opportunity. This cycle of initiating and achieving goals helps you rise higher in life.
- ✦ **Commands respect from others:** When people around you, your family, teachers, classmates and friends, watch you performing to achieve good results, without any push or supervision they start respecting you. Your parents and teachers realise that they do not need to control or force you. Also, your peers get inspired by you.



In essence, self-management skill will help you to live a more organised, stress-free, and a fulfilling professional and personal life.



ASSESSMENT TIME

A. Multiple Choice Questions:

- The 'S' in SMART strategy stands for
a. Short b. Specific c. Schedule d. Systematic
- A target informs you whether you are progressing at the right pace or not.
a. Defined b. Time-bound c. Schedule-bound d. Accountable
- skill is the ability to use your time, energy, and resources effectively to achieve goals.
a. Organisation b. Scheduling c. Accountability d. Time management
- It is important to prepare a to accommodate the planned tasks and other activities.
a. Schedule b. Date-sheet c. Planning d. Task-sheet
- A attitude helps one to focus on the possible solutions.
a. Good b. Problem-centred c. Time-bound d. Solution-centred

B. Fill in the Blanks:

- skill is the ability to use your time, energy, and resources effectively to achieve the goals you have set for yourself.
- Being accountable means being for your actions.
- The avoidance of doing a task that needs to be accomplished is called
- The mind-set that helps us to focus on the possible solutions is called attitude.
- means doing the right thing without being told what to do.

HINTS

Procrastination Organisation Responsible Initiative Solution-centred

C. Answer the Following Questions:

- What do you understand by the term Management?

Ans: Management is the art of planning, organising, directing, and controlling the resources and tasks, efficiently and effectively, to achieve a goal.

- Mention the three key skills required for Self-management. Describe each one briefly.

Ans: Self-management comprises three key skills-Initiative, Organisation, and Accountability.

- + **Initiative** means identifying a problem and working to solve a problem without being told what to do.
- + **Organisation skill** is the ability to use your time, energy, and resources in an effective way to achieve the goals you have set for yourself. It includes defining tasks, managing time, and preparing and sticking to your schedule.
- + **Accountability** means holding yourself answerable for the completion of the task. It involves avoiding procrastination, adopting a solution-centred attitude, managing your own emotions, and coping with distress.

- What does the acronym SMART stand for?

Ans: SMART is an acronym for Specific, Measurable, Achievable, Realistic, Time Bound. It is a strategy for setting and defining targets to help achieve the final goal.

4. List any three characteristics used to assess time-management skills.

Ans: Following are the characteristics that indicate poor time-management skills - missing appointments, not knowing how long it takes me to complete a task, and forgetting tasks.

5. What are the strategies to avoid procrastination?

Ans: Following are some of the strategies that help in avoiding procrastination:

- i. Acknowledge procrastination.
- ii. Make and display to-do list in the work area.
- iii. Schedule harder tasks before the enjoyable tasks.
- iv. Reward yourself for completing task in a timely manner.

D. Answer the Following Questions:

1. What is self-management? How is it different from management?
2. Discuss the importance for devising a realistic and time-bound plan.
3. The chapter mentions 'measurable' as part of the SMART strategy. What do you understand by it? How do you measure your progress?
4. What is the importance of self-management? Explain briefly.
5. Discuss any three strategies of Organisation Skill that you would like to apply in your life. How do you hope to benefit from them?

E. Application Based Questions:

1. Sumit always complains about not having enough time to finish his homework. He wonders how others are able to finish their homework and still have time for hobbies. Suggest him a few tips to manage his time effectively.
2. Aarti has volunteered to make a project for the inter-school science competition. The competition is a month away, and she has not even started working on the project. Suggest her some steps to be accountable and finish the project in time.



ACTIVITY ZONE

For Better Concept Clarity

Think of a goal you want to achieve. Apply the SMART strategy to develop a plan for achieving it. Track your progress. After achieving your goal, record what self-management principles did you employ and how did they help you. Do a write-up on your experience and your learning from the entire process.



GROUP DISCUSSION

Hold a group discussion in the class on the topic, 'The Positive Results of Self-management'.

Building Self-Confidence

Self-confidence means having trust in one's own judgement and ability. It is reflected in one's belief that he is a valuable person and capable of accomplishing what he wishes to do. Self-confident people have three main attributes:

- ✦ Belief in one's own capability
- ✦ Ready to accept any challenge
- ✦ Willingness to take risks

FACTORS INFLUENCING SELF-CONFIDENCE

Confidence is not genetically inherited. Many factors influence our beliefs about our capabilities. Three most prominent factors that contribute to building confidence are:

1. Social Factors
2. Cultural Factors
3. Physical Factors

SOCIAL FACTORS

Society plays a critical role in shaping and building our self-confidence. Our society comprises our family, neighbourhood, friends, relatives, school, and even strangers. Our initial interactions with society leave a lasting impact on our attitude and outlook towards ourselves. Evaluations from parents, teachers, schoolmates, and friends can affect the ways how we perceive ourselves, which then progressively build up our self-confidence.

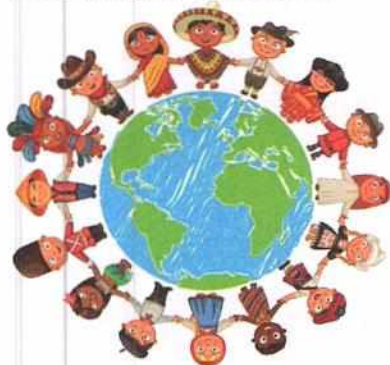
The attitude of parents toward their child creates the first significant impact on him especially in his initial years of his life. For example, lack of love and attention, harsh physical and mental punishments, and excessive criticism and derogatory remarks on a child's mistakes can break his confidence, instil a fear of failure in him, and make him hesitant to take on challenges. On the other hand, overprotective parenting style also hampers a child's self-confidence. Shielding a child prevents him from facing any pain and struggle. It also prevents him from developing resilience and coping with stress and failure. He may come to believe that he is incapable or inadequate. Therefore, a balanced approach to parenting is necessary to build a child's confidence. When a child commits an error, parents should encourage him for trying again and guide him on how to perform better the next time. This kind of behaviour prepares the child to accept new challenges, teaches him to consider failure as a part of life, and helps in developing self-confidence.



CULTURAL FACTORS

Culture refers to the characteristics of a particular society, community, or ethnic group reflected in its practices and beliefs.

Culture influences a child's development and behaviour. Children growing up in different cultures receive specific inputs from their environment. For that reason, there is a vast range of cultural differences in children's beliefs and behaviour. Cultural competence comprises an understanding of all aspects of a culture, i.e., social, educational, and organisational, in which we live and participate.





Nicholas Vujicic, founder of 'Life without Limbs', an international non-profit organisation is an inspiration to millions. He founded 'Attitude is Altitude', a secular motivational speaking company. Nicholas was born with Tetra-Amelia syndrome, i.e., without fully formed limbs. He is one of the seven known individuals on this planet, who live with this syndrome. He has starred in the short film 'The Butterfly Circus' and was awarded 'Best actor in a Short Film' at the 'Method Fest Independent Film Festival'.

For example, some cultures value independence, individuality, self-esteem, and asserting oneself as important aspects of personality. Children from such cultures are outgoing, eagerly explore new situations, demonstrate competence, and have self-confidence. On the other hand, some cultures honour traditional values, relations, and obedience. Children from such cultures cultivate the need to maintain interdependent relationships.

PHYSICAL FACTORS

Physical factors like healthy physique, healthy mind, good appearance, etc., play an important role in developing self-confidence in a person.



Moreover, in every culture, good looks are always appreciated and admired, which affect a person's self-confidence. It is a good practice to maintain good hygiene and physical appearance, but over-emphasis on the unrealistic image of beauty, as portrayed in media, may adversely affect self-confidence.

Physical disability instils a sense of dependency in an individual. If a physically disabled person suffers from social discrimination and exclusion, this may lead to low self-confidence. However, a positive attitude and strong will can surely help a disabled person to overcome his physical limitations and motivates him to accept the challenges. Nicholas Vujicic is an excellent example of success through positivity and perseverance despite being born without arms and legs.

Various attitudes that define the level of confidence among people are reflected in their behaviour, body language, and way of speaking.

VARIOUS ATTITUDES OF PEOPLE

The above-mentioned factors determine how confident a person feels. You meet so many people every day, in your school, home, and neighbourhood. Some people may strike you as very confident, while some others may not appear as confident.

Various attitudes of people, reflected in their behavior, body language, and way of speaking, define their level of confidence.



ATTITUDES OF PEOPLE WITH LOW CONFIDENCE

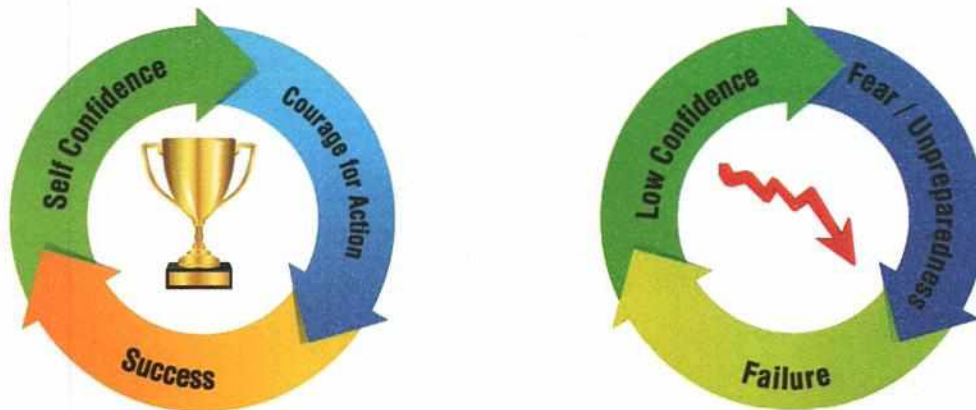
- ✦ **Fear:** They are anxious about the possibility of failure.
- ✦ **Value others' opinion:** They depend on other people's approval and validation to feel good about their ideas.
- ✦ **Over critical:** They tend to focus on their shortcomings like physical appearance, lack of knowledge, etc.
- ✦ **Poor time-management:** They are unable to decide on priorities and focus on tasks.
- ✦ **Unpreparedness:** Since they do not expect success, they do not put in the necessary efforts.
- ✦ **Lack of Initiative:** They do not feel motivated to bring about change or improvisation.
- ✦ **Reluctant to deal with others:** Such people make excuses and try to evade confronting people.
- ✦ **Negative outlook:** They focus on past failures instead of learning from the experiences.

ATTITUDES OF SELF-CONFIDENT PEOPLE

Self-confident people have the following attitudes:

- ✦ **View to the world:** They have a positive outlook towards themselves and situations surrounding them.
- ✦ **Realistic view of self:** Confident people are able to recognise their strengths and accept their weaknesses at the same time.
- ✦ **Trust own ideas and beliefs:** Confident people rely on their own ideas and beliefs rather than on others' opinions.
- ✦ **Deal with mistakes:** Confident people accept their mistakes rather than covering or justifying it. Moreover, they are willing to learn from it.
- ✦ **Focus on growth:** In spite of recognising their weaknesses, they choose to focus on the opportunities to grow rather than concentrate on their shortcomings.

We can say that a balance and rationality in attitude are the hallmarks of self-confidence. A self-confident person shows the willingness and courage to face new challenges and works hard to attain his goals. This success further strengthens his confidence. Whereas, a lack of confidence puts them in a vicious cycle, where the fear and unpreparedness prevent them from succeeding, and the failure further reinforces their sense of inadequacy leading to low self-confidence.



Self-confidence is an essential attribute as it helps you in making a better and happier life for yourself. Not everyone is born with self-confidence, however, it can be developed. The following section explains some practical ways to build self-confidence.

BUILDING SELF-CONFIDENCE

"Self-confidence can be learned, practiced, and mastered-just like any other skill. Once you master it, everything in your life will change for the better" - Barrie Davenport.

Building self-confidence is a process that takes efforts and commitment. It requires you to cultivate a positive attitude about yourself, to set goals, and take risks. Following techniques will not only assist you in building your self-confidence but also in sustaining it in the long run.

SWOT Analysis: SWOT stands for Strength, Weakness, Opportunity, Threat. This analysis is a useful technique for understanding your strengths and weaknesses. It also helps you in identifying both the opportunities open to you and the threats or challenges you will possibly face.



The analysis helps you to recognise your talents and abilities. It also helps you to find or choose opportunities that utilise your core strengths.

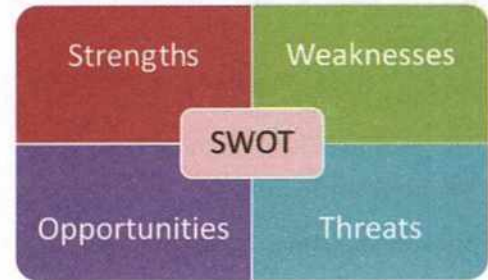


ACTIVITY ZONE

For Better Concept Clarity

Follow the given steps to perform the analysis:

- 1. Identify Your Core Strengths:** Make a list of things that you do well. Remind yourself of your achievements, big or small, and identify the skills that were needed for the achievement. Analyse what you enjoy doing the most. This will help you in identifying your core strength.
- 2. Identify Your Weaknesses:** Examine the areas in which you need to improve and the things that often set you back. Ask yourself the following questions:
 - ✦ What are your negative work habits?
 - ✦ Which subject or skill hinders your success?
 - ✦ What are the areas you need to improve upon according to your parents' and teachers' feedback?
- 3. Opportunities:** Identify the avenues to exhibit and utilise your core skills. Also, find the sources and support systems that can help you to prepare for challenges and sharpen your skills.
- 4. Threat:** Research the Internet, read articles, and talk to the experts to get a realistic picture of the opportunity you want to pursue. Make a list of all the possible challenges and pitfalls. This will help you to prepare aptly for the challenges you are going to face on the way to your success.



BUILDING SELF-CONFIDENCE

After analysing your strengths and weaknesses and identifying potential opportunities and threats, you will have to set yourself in action. Take on a task that you have been too scared to do. Be sure to set a small goal at first and practise the art of planning and perseverance and attain success, no matter how small it may seem to others. For example, take an unfamiliar journey on public transport or volunteer to give a presentation or a speech.



Here, it is important to apply the principles of self-management you have learned in the previous chapter to strengthen your attempts, stay on task, and attain success. Follow the given steps to build your self-confidence:

Set a Well Defined Goal: Use the **SMART** strategy to outline a suitable goal for yourself.

Organise Yourself: Apply the organisation skills that you learned in the previous chapter, such as:

- ✦ Break the goal in to smaller tasks.
- ✦ Define the time limit for each task.
- ✦ Prioritise your tasks and make a schedule, and stick to it. Hold yourself accountable and avoid procrastination.
- ✦ When you meet any obstacle, remind yourself that this is bound to happen and you need to find ways to address it or move on despite it. Remember, an obstacle is only an indication of progress and not failure.

- ✦ Display reminders of your goal and a vision of your success where you can see them repeatedly. This will help you to manage your moods and emotions as these reminders will bring your focus back to your goal.

Be Assertive: Have faith in your beliefs and abilities. Do not feel obligated to prioritise others' demands over your goal and plan. Your goal is as important to you as their plan is important to them.

Experience: Gaining experience requires you to take the first step no matter how hard it may seem, and then keep practising. Each incident of success will take your self-confidence a step further. You will also learn to overcome obstacles and handle failures as you will notice that they are inevitable parts of the process and not the end of the process.

Surround Yourself with Positive People: Always keep yourself in the company of positive people. Avoid any negative or discouraging influences and focus on the positive voices, including your own. It will uplift your thought process and keep you motivated.

Care For Yourself and Others: Staying clean and dressing well is positively related to positive attitude and uplifted mood. A well-dressed and well-groomed person generally commands more respect from others. Also, nothing makes you feel better about yourself than being useful to others. So, make meaningful contribution to the society by volunteering for charities that are compatible with your core strength.

Be Prepared: Assess the requirements of a task and work hard to prepare yourself for it. Your confidence will naturally rise, if you are good at your job.

Self-confidence may seem hard to attain, but it is attainable through practice and perseverance. Remind yourself of your qualities and talents, and value them. Treat yourself like you would like to be treated by others, and you will notice the difference in people's attitude towards you.

In summation, the key to gaining self-confidence is, to recognise your strengths and success and learn from your weaknesses and mistakes.

Recap



✦ Self-management is managing yourself to achieve the pre-determined tasks or goals that you have set for yourself by regulating your actions, organising your time, and being accountable for your decisions.

- ✦ Self-management comprises three key skills-Initiative, Organisation, and Accountability.
- ✦ Organisation skills include identifying and defining specific goals, breaking down goals into smaller tasks (Adopting the SMART strategy), and time-management.
- ✦ Positive results of self-management makes you more organised, instils discipline, helps in attaining goals, enhances self-confidence, and commands respect.





ASSESSMENT TIME

A. Multiple Choice Questions:

- prevents a child from developing resilience and coping with stress and failure.
a. Authoritative Parenting b. Regular Schooling
c. Overprotective Parenting d. Playing
- adversely affects self-confidence of a child.
a. Overprotective parenting b. Love and care
c. Physical Punishment d. Both a and c
- Cultural competence comprises an understanding of all aspects of a culture that is, social, educational, and
- a. Emotional b. Organisational
c. Institutional d. Situational
- People with self-confidence have a outlook.
a. Negative b. Arrogant
c. Outward d. Positive
- People with low confidence are
- a. Smart b. Pleasant
c. Unprepared d. Arrogant

B. Fill in the Blanks:

- Trust in one's own judgement and ability is called
- Our family, neighbourhood, friends, relatives, school constitute our
- parenting shields a child from facing any pain and struggle.
- The characteristics of a particular society, community, or ethnic group reflected in its practices and beliefs are collectively referred to as
- Possible challenges and pitfalls in the pursuit of a goal are termed as

HINTS

• Society • Self-confidence • Overprotective • Threats • Culture

C. Answer the Following Questions:

- What are the three most prominent factors that contribute to building confidence are?

Ans: The three most prominent factors that contribute to building confidence are:

- Social Factors
- Cultural Factors
- Physical Factors

- Mention any three attitudes of self-confident people.

Ans: Self-confident people usually possess the following three attitudes:

- Realistic view of self:** Confident people are able to recognise their strengths and accept their weaknesses at the same time.
- Deal with mistakes:** Confident people accept their mistake rather than covering or justifying it. Moreover, they are willing to learn from it.

iii. **Focus on growth:** In spite of recognising their weaknesses, they choose to focus on the opportunities to grow rather than concentrating on their shortcomings.

3. What is SWOT? How is it useful?

Ans: SWOT stands for Strength, Weakness, Opportunity, Threat. It is a technique that helps one to analyse one's own strengths and weaknesses. It also helps one in identifying both the available opportunities and possible threats or challenges.

4. Mention any three steps we can take to organise our self.

Ans: Following steps help us to organise ourselves:

- i. Prioritising our tasks ii. Make a schedule or Time-table iii. Avoid procrastination

5. How does the 'Opportunity' part of SWOT analysis help in developing self-confidence?

Ans: The 'Opportunity' part of SWOT analysis helps us to recognise projects or challenges that align with our core strengths. By pursuing the projects that are compatible with our strengths and interests, we are more likely to succeed and sharpen our skills in the process.

D. Answer the Following Questions:

1. What is the importance of experience in building self-confidence?
2. Lack of self-confidence puts one in a vicious cycle. Comment and support your answer with an example.
3. What role does parental attitude play in building one's self-confidence?
4. Draw a contrast between attitudes of people with low and high self-confidence.



ACTIVITY ZONE

For Better Concept Clarity

Role-Play

- + Ask the students to imagine being a famous sportsperson/actor and address a press conference after succeeding in cricket series/block buster movie.

Using Creativity

- + Imagine that your school is preparing for its annual function next month. Do a SWOT analysis and find out your strengths and weaknesses. Make a list of the activities in which you can participate in your annual function. Make another list of the potential difficulties (threats) you may face. Then, make a step-wise plan for preparing yourself for the activity.

GROUP DISCUSSION

Divide the class in two groups and conduct a group discussion in the class on the topic, '**Steps to Build Self-confidence**'.



Introduction to ICT

Technological development has revolutionised our everyday life to a great extent. It has led to the emergence of a new global economy. Technology has virtually transformed the world into a global village. Nowadays, with the click of a button, you can find any information you want.

INFORMATION AND COMMUNICATION TECHNOLOGY

ICT is an acronym for Information and Communication Technology. It refers to all the devices, networking components, applications, and systems that allow people and organisations to interact in the digital world. ICT comprises all communication technologies such as the Internet, mobile phones, satellite transmission, wireless networks, etc.



ROLE AND IMPORTANCE OF ICT

Every aspect of our daily routine has altered with the advent of ICT. It helps to improve the quality of our lives, by giving us an easy access to information as well as a large number of products and services. ICT has transformed the way we live, the way we work, the way we conduct business, and the way we communicate with each other.

ICT IN WORKPLACE

The World Wide Web has made it possible to search for information on varied issues such as education, health and nutrition, current affairs, social aspects, finance, and many other important issues, which help us to improve and enrich our lives. ICT is very helpful at the workplaces that use robots and artificial intelligence in the manufacturing of products.

ICT is used in many other workplaces, like:

- ✦ The mining industry, for prospecting
- ✦ Auto industry and aerospace industry, for research, design, engineering and manufacturing, assembling as well as fault diagnosis, and safety tests and simulations.
- ✦ Power plants, for power generation and distribution
- ✦ Telecommunications industry, for building and maintaining networks
- ✦ Finance agencies have access to a large amount of information about companies and markets all over the world, which help them in analysing and predicting future trends



The potential application of ICT is only limited by our imagination. If used correctly, ICT can impact human lives in an effective and positive way and enrich our lives.

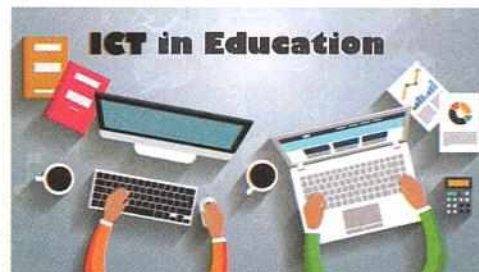
ICT IN EDUCATION

ICT can be effectively used to develop content and conduct classroom training through videos, expert lectures, and other such tools. TV channels, websites, and apps use ICT services to create and transmit educational content and provide

online training to students living in the remotest parts of the world. Nowadays, several online educational programs are available that are conducted through video conferencing.

ICT has improved the process of teaching and learning in many ways, like:

- ✦ Students and teachers have access to a wide expanse of knowledge base.
- ✦ Students can develop research skills at a young age.
- ✦ Teachers are able to collaborate and share their ideas and resources online.



ICT IN HEALTH CARE

ICT is used in the pharmaceutical sector for cutting edge research and manufacturing. It helps in hospital management, administration and it also helps the doctors and nurses to diagnose, treat, and monitor patients. One can search for and learn about various diseases, their symptoms, cures, and precautionary measures on the Internet.

IT IN GOVERNANCE

Digital India and e-governance initiatives of the government have resulted in providing many government services online, such as processing of documents like licenses, collection of taxes, exchange of information with citizens, and other government departments. ICT also provides a platform for interaction between the government and people through government websites and apps. Services, such as tax payment, ordering LPG cylinders, enrolling for the electoral process, paying for water and land bills, and finding information about different government schemes has been made possible because of ICT.



ICT IN BUSINESS

ICT facilitates e-commerce, which includes marketing, product browsing and shopping, and processing of orders. Business communications through e-mail, video conferencing, and mobiles in marketing of products is another major use of ICT in business.

E-commerce (or online shopping) allows the users to search and compare various products and services, which they can buy at competitive prices and get them delivered right at their door steps, thus saving time and money.

E-banking facilitates business by helping in banking transactions at any time from anywhere. It has enabled people to conveniently and quickly conduct their financial transactions online.

ICT TOOLS

The technological tools that facilitate creation, dissemination, storage, and management of information and communication are called ICT tools. These tools not only include the traditional technologies like radio and television,

but also the modern ones like mobile phones, computers, networks, satellite systems, and so on. They also consist of various services and applications associated with them, such as teleconferencing, video conferencing, social networking, etc.

MOBILE PHONE

A mobile phone helps us in communication, in both by voice and text mode. It also helps us to create documents, make presentations, collect data and distribute Information. Mobile phones are used to surf the internet to get information on any topic, in a very short span of time. Through mobile phones, students can access various educational videos online, participate in group discussions with other students across the globe, or download various educational apps for their use. With the help of banking apps, all financial transactions can also be done instantly.



TABLET

A tablet is undoubtedly an exciting and new way to interact with technology. They are touch screen enabled small computers that are easy to handle and maintain. Tablets are mostly used for downloading and accessing educational apps and interactive books, watching movies, playing games and connecting with people on social media.



INTERACTIVE WHITEBOARDS

An interactive whiteboard (IWB) also commonly known as an Interactive Board or Smart Whiteboard, is a large display screen (usually in white colour) that can be connected with a computer. In this way, presentations and other digital interactive content can be displayed and used effectively on the Smartboard. An interactive whiteboard in the classroom can be used by educators to write on and improve the presentation content as compared to chalk boards.



E-READER

An e-reader, also called an e-book reader, is a mobile electronic device that is designed primarily for the purpose of reading e-books which are available in digital form. An e-reader is capable of holding thousands of books while weighing less than one. Kindle is one of the most common examples of an e-reader.



NEWSPAPER

Nowadays, newspapers are printed with the latest information available by using various sources influenced by ICT. The cutting-edge technology helps the news agencies to collect, collate and print the news with greater efficiency. Various news portals are also available to provide us with online news, anytime and anywhere. Some of the common news websites are : www.prasarbharati.gov.in, www.timesofindia.indiatimes.com, www.ndtv.com, and www.indianexpress.com.



RADIO

Radio instructions has been widely used for information broadcasts. Radio broadcast technology has been used for distributing educational resources in the past.



TV

Unlike radio, television brings the eye and the ear together and thus makes the audio-visual experiences concrete, real, and immediate. We can watch a number of programmes on our TV sets on sports, current affairs, entertainment, education, and many other areas. It is now considered as the most powerful and exciting means of communication ever devised by man. TV has also been



utilised successfully as a mechanism for reaching out-of-school youth. One-to-many broadcast technology has reinforced the instructional methodology. Television aids students' learning by offering a unique combination of sight, sound, motion, and emotion, which gives students a greater understanding of the world around them.

E-MAIL

E-mail is short for 'electronic mail'. Similar to a letter, it is sent via the Internet to a recipient. An e-mail address is required to send or receive an e-mail, and that address is unique to the user. When compared to traditional post, e-mails are delivered extremely fast from one computer to another. It can be sent and received from any computer, anywhere in the world, that has an Internet connection. E-mail is an extremely useful ICT tool that can be used for giving instructions, serving as documentation, providing confirmation, communicating rules and procedures, making recommendations, providing a status update, making an inquiry, etc. It can also be utilised as a tool for facilitating learning through the Internet. In an educational environment, e-mail can be used by facilitators to transmit much needed course related communication to students so that they all have access to the same information.



ASSESSMENT TIME

A. Multiple Choice Questions:

- Which of these activities are related to e-commerce?
a. Online shopping b. Watching movies c. Inventory management d. Socialising
- Which of these is not an ICT tool?
a. Mobile phone b. Television c. E-mail d. Book
- ICT has improved the process of teaching and learning by providing
a. Interactive whiteboards for training b. Online training to students
c. Classroom training through videos d. All of these
- An e-reader is capable of holding thousands of:
a. Newspapers b. E-books c. Photos d. Movies

B. Fill in the Blanks:

- ICT helps to improve the quality of our lives, by giving us easy to information and services.
- ICT tools include as well as modern technologies.
- are touch screen enabled small computers that are easy to handle and mostly used for accessing educational apps.
- Radio and TV uses broadcast technology.

HINTS

• One-to-many

• Traditional

• Tablets

• Access

C. Answer the Following:

- Mention any three ICT tools that are used in day-to-day life.
- How is ICT used in the field of healthcare?
- What is the role of ICT in various workplaces?



ACTIVITY ZONE

For Better Concept Clarity

- ✦ Create a presentation about some of the tools of ICT.
- ✦ Collect information about the Digital India initiatives taken by the Government of India.

Components of Computer System

A computer is an electronic device that can perform a variety of tasks, by executing a given set of instructions. It is a versatile device and can handle multiple tasks, such as performing calculations, playing music, painting, managing data and files, and developing various applications. It is able to execute various tasks due to its speed, accuracy, storage capacity, and versatility. However, a computer also has some limitations. For example, it cannot think on its own and needs instructions at every step to perform its operations.



BASIC COMPONENTS OF COMPUTER SYSTEM

A computer system has three important parts – Input Unit, CPU, and Output Unit, for performing different functions. Let us compare these units with the parts of a human body.

Sr. No.	Computer Components	Computer	Human Being	
1	Input Unit	Input is given through input devices, like keyboard, mouse, etc.	Input is received through eyes, nose, ears, mouth, etc.	
2	CPU	Memory Unit	Data and instructions are stored in memory unit.	Brain is used for storing all kinds of information.
		ALU	Arithmetic and logical operations on data are performed by ALU.	Arithmetic and logical operations on data are performed by the brain.
		Control Unit (CU)	CU controls the functioning of all the components of a computer.	Brain controls the functioning of the entire body.
3	Output Unit	After processing, the output is displayed on the monitor. It can be in the form of soft copy or hard copy.	The output is in the form of voice, actions, etc.	

Let us understand the basic organisation of a computer with the help of a block diagram.

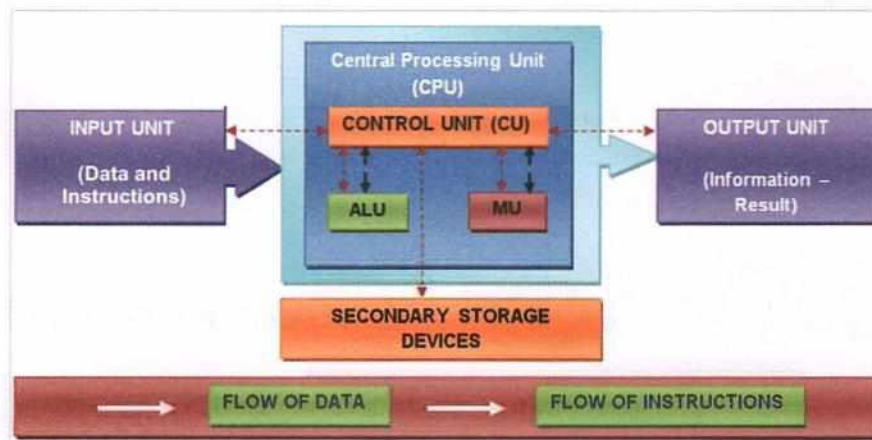
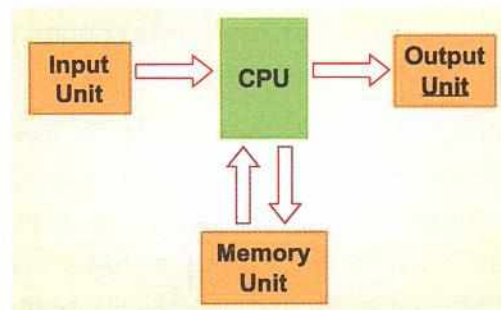


Fig. 8.1: Basic Organisation of a Computer

The computer system are:

- ✦ **Hardware:** The physical components (electronic and mechanical) of a computer that you can touch and feel comprise the hardware of a computer, such as the CPU, keyboard, mouse, monitor, printer, motherboard, RAM, etc.
- ✦ **Software:** It is a collection of programs and procedures that instructs a computer about how to perform the different types of tasks. A software enhances the capability of the hardware and directs the computer to perform operations, like input, processing, and output. Software can be classified into two types:

1. System software
2. Application software



PARTS OF A COMPUTER

Input Unit: These are the devices that are used to provide input to the computer. These devices are used to translate the user's commands into a binary code that can be recognised by the computer. The most commonly used input devices are keyboard, mouse, scanner, and joystick.



Output Unit: The devices that are used to display the output, after processing, comprise the output unit of a computer. Some of the commonly used output devices are, such as, monitor, printer, headphone, plotter, speakers, etc. The output can be in the form of a softcopy (the output displayed on the monitor), or hard copy (printed on a paper), or a sound file (through a speaker).



Central Processing Unit (CPU): CPU is the main unit of a computer. It controls all the internal and external devices of a computer and performs arithmetic and logical operations. Due to its small size, a CPU is referred to as a microprocessor. A **microprocessor** is a type of integrated circuit, built on a tiny piece of silicon. A microprocessor chip contains millions of transistors. The transistors work together to store and manipulate data so that the microprocessor can perform a wide variety of functions. The speed of a CPU is determined by the number of instructions it executes per second, which is measured in **Megahertz (MHZ)**. Hertz (Hz). Nowadays, due to technological advancements CPU speed is measured in gigahertz (GHz).



Components of CPU

There are three main components in a CPU.

1. Arithmetic and Logical Unit (ALU)
2. Control Unit (CU)
3. Memory Unit (MU)

ALU: Arithmetic Logic Unit is the component of CPU, which performs the arithmetic and logical operations on the operands. The arithmetic operations are – addition, subtraction, multiplication, and division. The logical operations use the relational operators, like greater than (>), less than (<), greater than equal to (>=), less than equal to (<=), not equal to (<>) etc. The logical operations test various conditions that are encountered during processing and allow for different actions to be taken, based on the results. The data and the operands act as the input for ALU and it generates the output as a result of computation.

Control Unit: This unit controls the operation of every other component of a computer system. It also controls the transfer of data and instructions among the various units of a computer. In order to execute the instructions, the components of a computer receive signals from the control unit. It extracts the instructions from memory, decodes them and sends the necessary signals to ALU to perform the required operation. It is also called the central nervous system of a computer system as it manages all the other units.

Memory Unit: The memory unit is the principal storage of the computer. It stores both data and instructions. The data and instructions can also be stored permanently in this unit so that they are available whenever required. The memory unit is linked with other parts of the computer and sends them the data when needed.

Computer memory is classified into two categories:

1. Internal Memory
2. External Memory

Registers: A register is a very small data holding place in a computer processor. It holds an instruction, storage address or data. There are various types of registers, each register performs a specific function. Some most commonly used registers are: Accumulator (AC), Data Register (DR), Address Register (AR), Program Control (PC).

STORAGE UNIT / MEMORY UNIT

Let us discuss about the memory in more detail in this section.

INTERNAL MEMORY OR PRIMARY STORAGE

Every computer has a certain amount of memory, usually referred to as the main memory. This is also called internal memory or primary memory. Primary memory is a place where data and programs are stored temporarily as long as they are being executed. It is very fast and expensive but has limited storage capacity. Internal memory is of two types:

1. RAM
2. ROM

RAM

RAM (Random Access Memory) is a type of computer internal memory that can be accessed randomly. Whatever information we enter into the computer goes into RAM and remains there as long as we are working on an application. It is a volatile memory as data and instructions are stored temporarily during its processing only and lost forever when the computer is switched off.



Example: A blackboard is like a RAM that is constantly overwritten with the new data. The commonly used calculator is another example of RAM.

Types of RAM:

- ✦ **DRAM (Dynamic Random Access Memory):** It stores data temporarily as the data is lost when the power supply is suspended. It needs to be refreshed periodically in order to retain data.
- ✦ **SRAM (Static Random Access Memory):** It is faster and more expensive than DRAM. It does not need to be refreshed, like DRAM, to retain information. It loses data when power is turned off.

- ✦ **SDRAM (Synchronous Dynamic Random Access Memory):** It uses a synchronous interface to transmit large amounts of data at high speed. This improves the efficiency of a computer as data is delivered in a shorter duration.
- ✦ **DDR (Double Data Rate Memory):** It is majorly used in Intel Pentium 4 systems. It requires less power and has a speed which is double than that of an SDRAM.

ROM

ROM stands for Read Only Memory. It is a type of memory from which information can only be read, whereas in a RAM, information can be read from and also written to. It is a non-volatile memory as it stores information permanently. Data stored in ROM can neither be modified nor removed. The primary use of ROM is during the booting process. This is the initial program used to start a computer when power is turned on.

Example: An audio-video disk resembles a ROM. Once the songs are burned on a CD, the disc contents cannot be changed.

Types of ROM:

There are several ROM variants that can be changed under certain circumstances. Following are the different types of ROM:

- ✦ **PROM (Programmable Read Only Memory):** The contents stored in PROM can be programmed, using a special device, known as PROM programmer. It can be programmed only once, that is at the time of manufacturing, and cannot be modified later. PROM provides a faster and less expensive approach for storing.
- ✦ **EPROM (Erasable Programmable Read Only Memory):** It can be erased and reprogrammed repeatedly with the help of a specialised software. The contents stored on the chip can be erased by exposing it to ultraviolet rays.
- ✦ **EEPROM (Electrically Erasable Programmable Read Only Memory):** The contents on the chip can be erased and reprogrammed in blocks instead of one byte at a time. It also has the provision of selective removal, which means, we can erase the particular data byte-by-byte instead of erasing it completely.
- ✦ **Flash Memory:** It is a special type of EEPROM, which maintains the stored information even without a power source. The contents can be erased and reprogrammed into big sections making it faster than the regular EEPROM. Flash memory, being durable, is majorly used in memory cards, mobile phones, MP3 players, etc.



Cache Memory

Cache (pronounced as 'cash') memory is a special high speed memory which can either be inserted on a motherboard or made a part of the CPU. The CPU uses cache memory to store instructions that are repeatedly required to run programs, thus improving the overall system speed. Cache is much more expensive than RAM but it is well worth getting a CPU and motherboard with inbuilt cache memory in order to maximise the system performance.

EXTERNAL MEMORY OR SECONDARY STORAGE

External memory is also known as auxiliary memory or secondary memory. Unlike since the main memory, it provides permanent storage of data in huge amount. Whenever required, the data for processing gets transferred from the secondary memory to the primary memory. Therefore, data has to be stored separately in a secondary storage device to make it permanent and accessible for a longer duration of time. The speed of retrieval of data from external memory is much slower than that of the internal memory. Some commonly used external storage devices are: hard disks, CD/DVD, pen drive, etc.

UNITS OF MEMORY

A computer stores and processes data or information in the form of binary numbers. The smallest unit of memory is Bit (Binary digit) that can hold a single state - either 0 or 1.

Some of the units of memory are:

Nibble	Group of 4 bits
Byte	Group of 8 bits
Kilo Byte	1KB = 1024 Bytes
Mega Byte	1MB = 1024 KB

Giga Byte	1GB = 1024 MB
Tera Byte	1TB = 1024 GB
Peta Byte	1PB = 1024 TB
NOTE: $1024=2^{10}$	



ASSESSMENT TIME

A. Multiple Choice Questions:

- A CPU does not consist of
a. ALU b. HDD c. CU d. MU
- One Tera Byte is equal to
a. 1024 Mega Byte b. 1024 Giga Byte c. 1024 Peta Byte d. 1024 Kilo Byte
- Which of these is not a peripheral device?
a. Register b. Modem c. Bluetooth d. Printer
- Control Unit is also called the of a computer:
a. Central digestive system b. Central respiratory system
c. Central processing system d. Central nervous system

B. State True or False:

- A microprocessor chip contains millions of transistors.
- The output can only be in the form of a hardcopy.
- The speed of a CPU is determined by the number of instructions it executes per second.
- AC, DR, AR and PC are types of Registers.
- The printed information on the paper is called a soft copy.

HINTS

- One-to-many • Traditional • Tablets • Access

C. Answer the Following:

- What is the function of a CPU?
- What are the components of a CPU? Explain them briefly.
- What is a Register? Name some of them.
- What is the difference between RAM and ROM?
- What are the various units of memory?



ACTIVITY ZONE

For Better Concept Clarity

- + Create a presentation to explain various types of primary storage devices in a computer.
- + Create a presentation on basic components of a computer.

Peripheral Devices

PERIPHERAL DEVICES

A computer system is made up of three major units that carry out its primary functions – Input, Output, and Storage units. There are many other internal and external devices that connect to the computer directly and add functionality to it. These devices are called Peripheral devices. The term peripheral device refers to all hardware components that are attached to a computer and are controlled by the computer system, but they are not the core components of the computer like the CPU, motherboard, and power supply etc. Peripherals, in other words can also be defined as the devices which can be easily removed and plugged into a computer system. A few examples of peripheral devices are:

- ✦ Optical disk drive
- ✦ Modem
- ✦ Bluetooth
- ✦ Memory card reader
- ✦ Digital Camera
- ✦ Monitor
- ✦ Printer
- ✦ CD ROM Drive

TYPES OF PERIPHERAL DEVICES

Peripheral devices can be classified into three categories:

- ✦ Input Devices
- ✦ Output Devices
- ✦ Storage Devices

INPUT DEVICES

Input devices are used to enter data and information into a computer. Some of the input devices are discussed below:

Keyboard

Keyboard is one of the most important input devices used to input data and instructions into a computer. It uses various keys to enter data to the computer. As discussed in Part-B, Unit-II, Session 1. Check the reference.



Fig. 9.1: Keyboard



Mouse

Mouse is the most commonly used input and pointing device that lets you select and move items on the screen. The left mouse button is used more frequently than the right button. A single left-click selects an item while double-clicking on an item activates the application. As discussed in Part-B, Unit-II, Session 1. Check the reference.

Fig. 9.2: Mouse

Stylus

A **stylus**, also called as touch pen, is a small instrument shaped like a pen that is used to provide input to mobile devices, computer screens, and tablets. It can be used to draw or make selections on touchscreen devices directly on the screen. Stylus is used on game consoles like Nintendo.



Fig. 9.3: Stylus Pen

Scanner

It is an input device that scans text, images, and objects optically. The scanned data is then converted into a digital image and displayed on the computer screen.

Types of Scanner

1. **Drum Scanner:** This is the most efficient and expensive scanner. It uses a rotating glass drum to scan. Drum scanners are used mainly in the publishing industry to print high quality images in books and magazines.



Fig. 9.4: Drum Scanner



Fig. 9.5:
Flatbed Scanner

2. **Flatbed Scanner:** It looks like a miniature printer with a flip-up cover protecting the glass window. In a flatbed scanner, the object to be scanned is placed face down on the glass window which is then illuminated with a bright light. The flatbed scanners are used in homes, schools, and medium sized offices.



Fig. 9.6: Handheld Scanner

3. **Handheld Scanner:** This is a small manual device which is dragged over the surface of the image to be scanned. Bar code scanner is one of the most-utilised handheld scanner used in shopping malls.

Bar Code Reader

It is an input device used for reading bar codes printed on the packing of various products. A bar code is a combination of dark and light stripes. It is a computer readable representation of information, present in visual format. Bar code reader is a very useful device commonly used for billing and inventory applications.

Joystick

A joystick is an input device which moves in the four directions and allows the user to move an object on the screen. It is normally used in gaming centres for playing games. It has a moving stick (which rests on a base) with some push buttons on it.



Fig. 9.7: Joystick



Fig. 9.8:
Microphone

Microphone

It is an input device used to record and store voice or any other sound into a computer, generally as a '.wav' file. Microphone is commonly used in video conferencing, speech recognition programs, radio broadcasting, recording, and sound amplifying systems.

Light Pen

It is a light-sensitive pointing device, commonly used to select or modify data on the screen. It allows the user to point on displayed objects or draw on the screen.



Fig. 9.9: Light Pen

OUTPUT DEVICES

They are used to provide information in the form of soft copy or hard copy. Some of the common output devices are listed below.

Monitor

Monitor is the most common output device. It is also called **Visual Display Unit (VDU)**, an electronic visual display for computers. Just like a television, a monitor also displays the output on the screen. Monitors display pictures by dividing the display screen into thousands (or millions) of minute dots called pixels, arranged in rows and columns. The pixels are so close together that they appear connected. The output displayed on the monitor is called **soft copy**.



Fig. 9.10: Monitor

The most common types of monitors are:

1. Cathode Ray Tube (CRT) monitors
2. Liquid Crystal Display (LCD) or Thin Film Transistor (TFT) monitors
3. Light-Emitting Diode (LED) monitors

1. Cathode Ray Tube (CRT) Monitors

In these monitors, a beam of electrons lights up the pixels/phosphor dots, which form the inner coating of the screen. Colour is achieved by combining Red, Green, and Blue (RGB) shades of different intensities. CRT monitors are bulky and occupy a lot of space. They are available in various sizes, like 14 inches, 15 inches, 17 inches, and 21 inches.



Fig. 9.11: CRT Monitor



Fig. 9.12: LCD Monitor

2. Liquid Crystal Display (LCD) Monitors

LCD monitors are relatively thinner and lighter than CRT monitors. They use the light modulating properties of Liquid Crystals (LC's). They save a lot of space and can be mounted on walls. They provide a wide viewing angle and come in various sizes such as 17 inches, 19 inches, 22 inches, etc. They display sharp images and require less power to run. They are used in a wide range of applications including computer monitors, television, instrumental panels, aircraft cockpit displays, etc.

3. Light-emitting Diode (LED) Monitor

LED display is the latest development in the field of monitors. These monitors have light emitting diodes that act as performance boosters in them. LED monitors offer better colour quality, clarity, and display than the LCD monitors. These monitors are flat, thinner, and lighter in weight. The biggest advantage of LED display is that it consumes low power, which is especially needed for handheld and chargeable devices, such as mobile phones, telephones, watches, gaming devices, tablets, laptops, etc.



Fig. 9.13: LED Monitor

4. Touch Screen Monitor

A touch screen is a special monitor that allows the user to input information by touching the icons or graphical buttons present on the screen. It is also used in ATM machines, offices, cineplexes, supermarkets and museums etc.



Fig. 9.14:
Touch Screen Monitor

Printers

A printer is a peripheral device used for printing the output on a paper or any other printable media. The printed information on a paper is called a **hard copy**. Printers are of two types:

1. Impact Printer
2. Non-Impact Printer

1. Impact Printers

Impact printers allow physical contact between the printer head and paper i.e., they print by the impact of dot wires on paper. They are also called **character printers**.

Impact printers are classified as follows:

- ◆ **Daisy Wheel Printers:** They produce letter-quality documents. The speed of these printers varies from 60 cps to 120 cps (character per second). They are not in use anymore since they were very slow and noisy.



Fig. 9.15:
Dot-Matrix Printer

- ✦ **Dot-Matrix Printers:** They are noisy and do not have good printing quality. As a result, they are losing popularity. Besides text, they are capable of printing charts and graphics. They are relatively economical.



Fig. 9.16:
Daisy Wheel Printer

2. Non-impact Printers

Non-impact printers do not allow physical contact between the printing head and paper i.e., they do not strike against the inked ribbon or the paper which is being printed. Whereas, only the ink used for printing, touches the paper. Non impact printers can produce better print quality and coloured graphics as well. The non-impact printers are categorised as thermal, inkjet, and laser printer.

- ✦ **Thermal Printers:** Thermal printers use a special heat sensitive paper. Characters are formed when heated elements come in contact with the heat sensitive paper, thus forming darkened dots.
- ✦ **Ink-jet Printers:** They produce images by spraying tiny droplets of ink onto the paper. They have very high quality output and can also produce coloured graphics. They are cheap and ideal for home/office. The cartridge is quite costly and needs to be replaced more frequently.
- ✦ **Laser Printers:** These printers use photocopy technology to print. Laser printers use a laser beam and dry powdered ink called 'toner to produce a fine dot matrix pattern. The quality of output on paper is very good.



Fig. 9.17: Ink-Jet Printer



Fig. 9.18: Laser Printer

Speakers

Speakers are the output devices which are used to play sound. A speaker converts an alternating electrical current into sound. It may be built into the system unit or connected with cables. We can listen to music and various sound effects through them.



Fig. 9.19:
Speakers

Plotters

A plotter is a vector graphic printing device which interprets commands from a computer to draw lines on paper with one or more automated pens. Plotters are basically used for graphical applications, like Computer Aided Designing (CAD) for printing maps and drawings.

There are two types of plotters: **Flatbed Plotters** and **Drum Plotters**.

1. **Flatbed Plotter:** A Flatbed plotter is also known as a **Table Plotter**. It plots on a paper that is spread and fixed over a rectangular flatbed table. A pen mounted on a moving carriage, moves in accordance with the signals received from the CPU and produces drawing on the paper. It is very slow in drawing or printing graphs.
2. **Drum Plotter:** A Drum plotter is also known as a **Roller Plotter**. It consists of a drum on which a paper is placed. The drum then rotates back and forth to produce the graph on the paper. The pen, mounted on a fixed carriage moves horizontally across the paper to create a perfect drawing. They are more noisy and compact as compared to the flatbed plotters.



Figure 9.20:
Flatbed Plotter



Fig. 9.21: Drum Plotter

SECONDARY STORAGE DEVICES

The primary memory due to its small capacity cannot store large amounts of data. Moreover, RAM is a volatile memory and cannot store the data permanently. Thus secondary storage devices are used to store information. The primary memory due to its small capacity cannot store large amounts of data. Moreover, RAM is a volatile memory and cannot

store the data permanently. Thus secondary storage until it is deleted or overwritten by the user. The commonly used storage devices are:

Hard Disk

It is the most common storage device for storing a large amount of data. It is also called **HD** or **HDD** (Hard Disk Drive) or **Winchester Disk**. It was introduced in 1954 by an IBM team led by **Rey Johnson**.



Fig. 9.22: Hard Disk

Hard disk is made up of a collection of disks known as **platters**. Each platter requires two read/write heads one for each side. All the read/write heads are attached to a single access arm so that they do not move independently. Each platter has the same number of tracks to store data. A track location that cuts across all platters is called a **Cylinder**. It has the following properties:

- ◆ Coated with magnetic material, it is hard and inflexible.
- ◆ It has a large storage capacity. It can store up to 8 TB of data.
- ◆ The disk rotates at a very high speed, varying from 5400 to 15,000 rpm (rotations per minute).

CD ROM

A CD-ROM stands for Compact Disc-Read Only Memory. Read only means you cannot change the pre-recorded information stored on the disk. It is a type of optical disk capable of storing a large amount of data, information, software, etc. Today, most of the software, like audio, video, graphics, and multimedia presentations are found on CDs. The data from a CD can be accessed using a CD drive.



Figure 9.23: CD-ROM

CD's come in two sizes, the standard CD with **120mm** diameter and mini CD with **80mm** diameter.

There are two types of CD ROMs: **CD-R** and **CD-RW**.

- ◆ **CD-R (Compact Disk Recordable)**: These disks can record data only once but can read data over and over again.
- ◆ **CD-RW (Compact Disk Rewritable)**: CD-RW is a rewritable disk. It allows us to erase the previously recorded data. We can write new data on a CD-RW disk multiple times.

DVD (Digital Versatile Disk)

Initially, it was called Digital Video Disk, the name later changed to Digital Versatile Disk. DVD can store high-quality video, audio, and other kinds of digital information. DVDs are available in single and double-sided versions.

- ◆ A DVD can store six times more data than a CD.
- ◆ The data transmission rate of a DVD is much faster than that of a CD (approximately 15 times faster).
- ◆ A DVD can hold 4.7 GB to 17 GB of data. Like a CD-ROM, a DVD is also available in many versions, such as:
 - ◆ **DVD-R**: You can record data only once.
 - ◆ **DVD-RW**: You can erase and record data many times.
 - ◆ **DVD-R and DVD-RW** have two additional formats, which are + and -. For example: DVD-R and DVD+R.

Blu-ray Disk

Blu-ray disk is a new optical disk format that is rapidly replacing a DVD. This format was developed to enable recording, rewriting and playback of high-definition video (HD), as well as for storing large amount of data. The name Blu-ray disk is derived from the blue-violet laser which is used to read and write this type of disk.

- ◆ **Largest Capacity**: It can hold upto 25 GB of data on a single layer and 50 GB of data on a dual layer disk. Blu-ray disk can store upto 6 times the data stored in a regular DVD.

- ✦ **Maximum Picture Resolution:** Blu-ray disk delivers full 1080p high definition video support that ensures high quality video reproduction. All the latest 3D movies are now distributed only on Blu-ray.
- ✦ **Uncompressed Surround Sound:** Blu-ray disk ensures the highest quality audio reproduction and entertainment.
- ✦ **Backward Compatibility:** Blu-ray disk players support and allow you to watch and enjoy your existing DVD libraries.
- ✦ **Disk Robustness:** Breakthroughs in hard-coating technologies enable Blu-ray disks to offer the strongest resistance to scratches and fingerprints.



Fig. 9.24:
Blu-Ray Disk

Flash Drive

It is a small and portable flash memory data storage device, mainly used to transfer audio, video, and data files from the hard drive of one computer to another. It is removable and rewriteable. It is plugged into the computer's USB port. It consists of a small PCB (Printed Circuit Board), which contains the circuit elements and a USB connector that is electrically insulated and protected inside a plastic, metal, or rubberised case.



Fig. 9.25:
Flash Drive

Flash drive is also called **Pen drive** or **Thumb drive** and is available with storage capacity of up to 2TB of data.

ASSESSMENT TIME

A. Fill in the Blanks:

1. A speaker converts an alternating electrical current into
2. Laser printers use a laser beam and ink to produce fine print.
3. A is a vector graphic printing device.
4. Hard disk is made up of a collection of disks known as
5. Flash drive is plugged into the computer port.

HINTS

- Platters • Powdered • USB • Plotter • Sound

B. State True or False:

1. A joystick is a small instrument shaped like a pen used to provide input to mobiles, monitors and tablets.
2. A bar code is a computer readable representation of information, present in visual format.
3. A monitor is also called Visual Display Unit (VDU).
4. The picture on a monitor is made up of thousands of small coloured dots called Pixars.
5. LED monitors offer better colour quality, clarity, and display than the LCD monitors.

C. Answer the Following:

1. What are peripheral devices? Give some examples.
2. What is a Scanner? What are its types?
3. What do you understand by a Monitor? Define pixels.
5. What is HDD? Briefly explain its configuration.



ACTIVITY ZONE

For Better Concept Clarity

- ✦ Create a presentation on various secondary storage devices.

Basic Computer Operations

Computer hardware and software are interdependent on each other. If any of these is not functioning properly, a computer is of no use. In this chapter, you will learn the process to start a computer and know about software and its types. This chapter also gives an overview of the commonly used operating systems.

PROCEDURE FOR STARTING A COMPUTER

When we start a computer, the booting process begins, which, initially checks whether all the hardware and software installed on the computer are working correctly. It also loads all the files needed to run a system. The next step in the booting process is called POST (Power On Self Test). This test checks the functioning of all the connected hardware, including primary and secondary storage devices.

On passing POST, the contents of CMOS (Complementary Metal Oxide Semiconductor) chip are checked. It is a small amount of memory on the motherboard that stores BIOS (Basic Input Output System) settings. The primary function of BIOS is to boot up an operating system on the computer. BIOS includes the instructions to load basic computer hardware. It is responsible for accessing and configuring the system settings like password, date, and time.

Once all the steps of BIOS gets completed, the operating system is loaded into RAM. The OS then executes the pre-configuration startup routines to define user configurations. Once the booting process gets over, you can log in to the computer with a username and a password. The desktop of the operating system appears, and you can start working on the computer using the required software applications.

PROCEDURE FOR SHUTTING DOWN A COMPUTER

When you shutdown a PC, the following things happen:

- ✦ If a program contains unsaved data, you are prompted to save it.
- ✦ All the open application programs get closed.
- ✦ The operating system shuts down by closing its programs, services and processes.
- ✦ The power management hardware turns off the power.
- ✦ Now, you can turn off the computer's power supply.

OPERATING SYSTEM

Computer being a machine cannot do anything on its own. It requires specific instructions on how to perform each and every task. Further, the instructions are to be converted in a language, which a machine understands. It means that the user cannot communicate with the computer directly. Thus, we require an interface between the user and the hardware. The Operating System acts like that interface. The computer interprets the instructions given by the user with the help of an operating system. It is the master program, which makes our PC alive and helps in running different applications.



Fig. 10.1: Operating System

The Operating System is just like the Principal of your school. The Principal has various responsibilities regarding the management of the school, like supervising students, teachers, and workers, maintaining discipline, analyzing

examination schedules, timetables, curriculum, meeting parents, and visitors. In the same way, a number of services are provided by an operating system. Imagine, what will happen if there is no Principal in a school. Everything will become unorganised. Similarly, if the operating system is not working in a computer, it will not be able to perform any operation.

The Hardware provides the user with basic physical resources to work upon. The application/utility softwares empower the user to perform a variety of functions on the computer, like solving problems, creating documents, playing games, etc. Operating System acts as a central coordinator between hardware and software.

Some of the popular operating systems are:

- ✦ WINDOWS
- ✦ MAC OS
- ✦ LINUX
- ✦ DOS

FUNCTIONS OF OPERATING SYSTEM

- ✦ To manage and share the hardware/software resources of a computer system.
- ✦ To provide an interface to the users to communicate with the computer system.
- ✦ To communicate with each application or interactive user (or to a system operator) about the status of operation and any errors that may have occurred.
- ✦ To secure the system and block unauthorised access to the system.

TYPES OF OPERATING SYSTEM

In the past three decades, computers have taken a giant stride towards excellence and high performance. This has been possible due to the evolution of operating systems. Let us learn about the different types of operating systems:

SINGLE USER OPERATING SYSTEM: These operating systems could support only one user to do one thing at a time, like Microsoft Windows 3.1, Microsoft Windows 95, and Microsoft DOS.

GRAPHICAL USER INTERFACE (GUI): This operating system is graphic based and interactive in nature, like Windows Operating System, Mac OS, Linux, etc.

MULTI-USER OPERATING SYSTEM: Multi-user operating systems allow more than one user to use the same computer at the same time, like Linux, Unix, and Microsoft Windows 2000 onwards.

MULTITASKING OPERATING SYSTEM: The ability to perform more than one task at the same time is called Multitasking, like Microsoft Windows 9x, Windows 2000 onwards, Linux operating systems.

MULTITHREADING OPERATING SYSTEM: These are the operating systems which allow different parts of an application or program to run simultaneously, like Microsoft Windows 9x, Windows 2000 onwards, Linux.

DISK OPERATING SYSTEM

Disk Operating System (DOS) is a type of system software that runs from a hard disk drive. It is a command line operating system where a user needs to type the commands for every action to be performed on the computer. DOS can support multiple directories, networking, enhanced memory management, text editing functions, disk compression, and fragmentation. However, its command line utility makes it difficult for beginners to use. DOS does not support multiple users or multitasking as it can run only one program at a time. DOS was most commonly found operating system in IBM PCs that were developed by Microsoft in 1981.

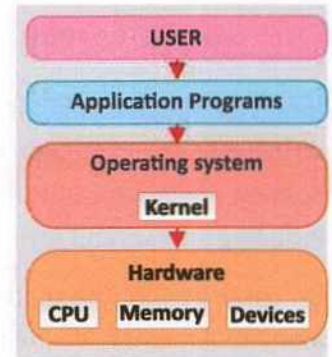


Fig. 10.2: DOS Prompt

LINUX

Linux is the operating system that is open source and free. It was developed by Linus Torvalds in the year 1991. Linux has become the most popular alternative to other costly operating systems due to its amazing features given below:



- ✦ Portable
- ✦ Multi-User and Multiprogramming
- ✦ Shell
- ✦ Open Source and Free
- ✦ Hierarchical File System
- ✦ Security

WINDOWS

Microsoft Windows is a series of Graphical User Interface (GUI) operating systems, which are developed, marketed, and sold by Microsoft. Windows OS was the first graphical user interface for IBM-compatible PCs, which soon dominated the PC market.

MOBILE OPERATING SYSTEM

Mobile Operating System is also known as Mobile OS. It is particularly designed to operate smartphones, PDAs, tablets and other mobile devices. Mobile Operating System is a software, which provides platform on which other programs or applications can run on mobile devices.

There are various kind of Mobile Operating System used in smartphones such as, BlackBerry (**RIM**), Android (**Google**), iOS (**Apple**), Symbian (**Nokia**), and Windows Mobile (**Microsoft**).

ANDROID OPERATING SYSTEM (OS)

Android is the world's most popular Mobile Operating System. It is an open source (Linux based) platform initially developed by **Android Inc.** in October 2003, and later on purchased by **Google Inc.** in 2005. The green robot is the logo for the Android operating system. Android OS turns your phone into a powerful web browser, game console, and personal assistant all in one.

SYMBIAN OPERATING SYSTEM (OS)

Symbian is a mobile operating system which is specifically created for smartphones. Symbian was originally developed by **Symbian Ltd** and is currently maintained by **Accenture**. Symbian was primarily used by **Nokia** and was also used by many major mobile phone brands like Samsung, Motorola, and Sony Ericsson. Android overtook it in the end of 2010 until then it was the most popular OS for smartphones.

iOS

iOS is a mobile operating system developed by **Apple**. It is the world's most advanced mobile operating system. It was originally released in 2007 and is used to run the iPhone, iPad, and iPod Touch. Formerly it was known as iPhone OS. Unlike other Mobile OS such as Android (Google) and Windows (Microsoft), Apple does not authorize iOS for installation on any non-Apple hardware. Therefore, iOS devices are created exclusively for its hardware. Apple designs the iOS devices to maintain a high level of security without compromising the user's experience. Due to their exceptional quality of apps, games, and features, iOS devices cost more than any other mobile OS gadgets available in the market.

WINDOWS MOBILE OPERATING SYSTEM

It is a mobile operating system developed by **Microsoft** for smartphones and mobile devices based on the **Windows CE Kernel**. It is designed to look and operate similar to desktop versions of Microsoft Windows. It has given a whole new dimension to e-mailing and documentation.

Some of the Windows Mobile OS are: Nokia Lumia 920, Samsung ATIV S, and Windows Phone 8C by HTC.

Windows Mobile OS is mainly classified into three main versions for various hardware devices:

Smartphones with touchscreen are supported with **Windows Mobile Professional Version**, mobile phones without touchscreen run on **Windows Mobile Standard**, and the last version of Windows Mobile OS is **Windows 10 mobile** which runs on mobile phones and tablets. Microsoft will stop providing support and updates for Windows 10 mobile by the end of 2019.



A. Multiple Choice Questions:

- The name of the Edubuntu's Graphical User Interface is
a. Unity b. Bash c. Kernel d. shell
- The checks the functioning of all the connected hardware, including primary and secondary storage devices.
a. Booting process b. POST c. Power on d. Input Unit
- operating system runs on computers which are located in different geographical areas, interconnected through a network.
a. GUI b. Command line c. Real time d. Distributed
- The small labelled pictures or symbols present on the desktop are called
a. Icons b. Pixels c. Buttons d. Commands
- The operating system has two components and
a. Software and Hardware b. Software and Technologies
c. Shell and Kernel d. Files and Devices

B. Fill in the Blanks:

- The operating systems allow different parts of an application or program to run simultaneously.
- The stores the deleted files in Edubuntu.
- A batch file consists of a series of to be executed by the command-line interpreter.
- DOS files are organised in a or an inverted tree-like structure.
- Linux was developed by in the year 1991.

HINTS

- Directory • Disk • Single User • Linus Torvalds • Interpreter

C. Answer the Following Questions:

- What is system software?
- What do you mean by multitasking operating system?
- Who wrote the original disk operating system?
- What do you mean by multithreading OS?
- What are the various categories of system software?
- What security measures does an operating system provide to a computer?
- Explain the directory structure of DOS with the help of an example.



ACTIVITY ZONE

For Better Concept Clarity

Create a presentation on the topic, '**Various types of Operating Systems**'.

Operating Systems

As you know, an Operating System is the first software that gets loaded into the computer memory while booting and it acts as a medium between a user and the hardware. Two of the most commonly used operating systems now-a-days are Windows 7 and Linux. Let's discuss them.

WINDOWS 7

Windows 7 was produced as a part of Windows NT family of operating systems. It was made available for use on October 22, 2009. It became very popular because of its user-friendly environment, noticeable speed improvement, and its modest system requirements. Some of its significant features are discussed below:

FEATURES OF WINDOWS 7

- ✦ Easy To Use
- ✦ Multitasking
- ✦ Searching Made Easier
- ✦ Pinning To Taskbar
- ✦ Aero Peek
- ✦ Live Taskbar Preview
- ✦ Jump List On Start Menu

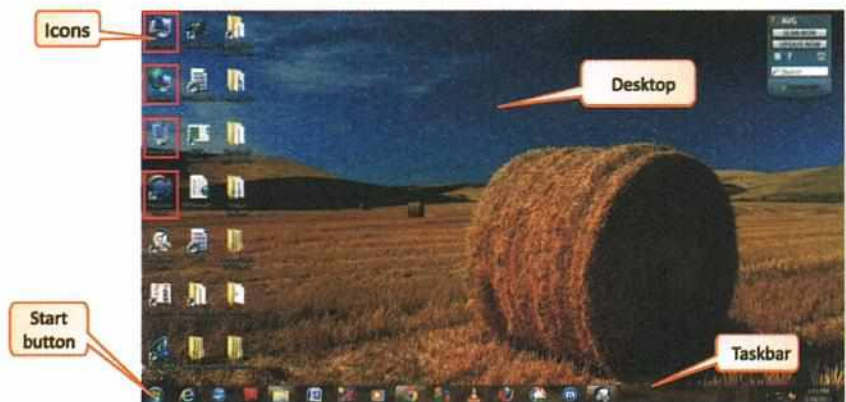


Fig. 11.1: Windows Desktop


STARTING WINDOWS

When you switch on the computer, Windows starts automatically and displays a welcome message. It is followed by the first screen of Windows known as **Desktop**. It contains some graphic symbols called **icons**.

DESKTOP

The word 'Desktop' is derived from the real life desktop (the top of our working table) where you may find pen stand, notepad, calculator, files, etc. The desktop of Windows also serves the same purpose. You can find various icons like objects, shortcut icons, document icons, disk drive icons, etc., on the desktop.

Taskbar

Taskbar is a long horizontal bar at the bottom of the desktop. It has the **Start button**  on the extreme left side. The middle section of the bar shows buttons with a label for each of the opened applications and allows us to quickly switch between them. You can activate the application window by clicking on its taskbar button. When an application is active, its button is highlighted in a lighter shade.

Quick Launch Bar is present on the right side of the **Start** button on the taskbar. The icons displayed on this bar help in quickly accessing programs/applications.

Notification Area at the right side of the taskbar includes a clock and group of icons that provide status and notifications about things like updates, network connectivity, incoming mails, battery, volume, etc.

Show Desktop button is present on the extreme right of the taskbar. Simply placing cursor on this button minimises all the open windows and shows the desktop.



Fig. 11.2: Taskbar

Start Button

The **Start** button is probably the most frequently used component of the Windows desktop. When you click on the **Start** button, a menu displaying the major applications appears. These headings provide access to the main programs of your computer. You can start programs, open documents, customise your system, get help, and search for items on your computer through the **Start** button.

Let us have a glimpse at the menu of the **Start** button:

- ✦ Documents
- ✦ Pictures
- ✦ Music
- ✦ Games
- ✦ Computer
- ✦ Control Panel
- ✦ Devices And Printers
- ✦ Default Programs
- ✦ Help And Support

Shut Down Your Computer

Click on the **Start** button and select the **Shut down** button at the bottom of the right pane. The system gets shutdown.

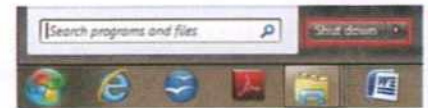


Fig. 11.3: Shut down

Icons

Small graphic symbols displayed on the desktop are called **icons**. Windows uses many objects that have specific functions such as: Files, Programs, Computer, Folders, Network Neighborhood /Network, Shortcuts, and Recycle Bin. **Icons** play a very important role in Graphical User Interface.

Some Important Icons

Let's discuss some default icons that appear on Windows 7 desktop.

Computer

Double click on this icon to explore your computer. It opens the icons to explore all your hard drives and displays a sidebar that contains **Favorites**, **Libraries** and **Computer** sections.

Favorites: By default, in Windows 7, Favorites for Internet Explorer are saved in the C:\Users\[username]\Favorites folder.

Libraries: A Library is a reference to one or more folders on your computer and the files found inside those folders. When opening a library, Windows Explorer displays all the files and folders that are part of it, as if they are physically stored inside the Library. They can help users organize their files and folders efficiently in one place regardless of where they are stored. The default sub-folders inside Library are: Documents, Music, Pictures and Videos.

Computer: Complete information regarding the system drives and other peripherals can be viewed under Computer. Usually, it displays three categories of information - Hard Disk Drives, Devices with Removable Storage, Network Location.

Network: This icon allows you to access the shared resources, such as files and printers.

Recycle Bin

The Recycle Bin is used by Windows computers to store deleted items. It temporarily stores files and folders before they are permanently deleted. You can open the Recycle Bin by double-clicking the icon on the Windows desktop. The Recycle Bin window allows you to delete items individually or restore them to their original location. If you want to permanently remove all items in the Recycle Bin, select "Empty the Recycle Bin" in the left sidebar of the window.

Shortcut Files & Folders

The Windows desktop contains shortcut icons of various files, folders and programs. These icons can be used to open it respectively from the ease of the desktop.

COMMON DESKTOP OPERATIONS

The Windows 7 desktop provides various features to control and manage its appearance. Some of them are :

Managing Wallpaper: The desktop background is called the Wallpaper. To change it :

1. Right-click a blank part of the desktop and choose Personalize. The Control Panel's Personalization pane appears.
2. Click the Desktop Background option along the window's bottom left corner.
3. Click any of the pictures, and Windows 7 quickly places it onto your desktop's background.
4. Click the Browse button and click a file from inside your personal Pictures folder.
5. Click Save Changes and exit the Desktop Background window when you're satisfied with your choices.

Managing Screensaver: A screensaver is a computer application that blanks the screen of the computer when it is inactive or fills it with images or patterns to avoid phosphor burn-in on plasma and CRT monitors. To set a screensaver:

1. Right-click a blank part of the desktop and choose Personalize. The Control Panel's Personalization pane appears.
2. Choose Screensaver icon from the bottom of the screen
3. Under Screen saver, in the drop-down list, click the screen saver you want to use.
4. Click Preview to see what your chosen screen saver will look like.
5. Click OK.

Setting up System Date/Time: Current system Date and time is displayed on the bottom right corner of your desktop. To change it

1. Click on the clock in the icon tray at the bottom right of your computer screen.
2. This should show the clock, date and calendar. Click on **Change date and time settings...** to get the **Date and Time** menu. (Alternatively, use **Start > Control Panel > Date and Time.**)

3. Click on **Change time zone** and select your time zone.
4. When you have the correct time zone, check that the time displayed in the **Date & Time** tab is correct. If not, change it and click **Apply**.
5. When complete, click on **OK**.

Volume Control: The volume control icon is displayed on the bottom right corner of the Windows 7 desktop. Use it to control the volume of all types of sound output.



Linux is the operating system that is available free of cost. It was developed by Linus Torvalds on 5th October 1991. Linux has become most popular because it is freely available, easy to use and operate and also allows users to work on many programs at the same time



COMPONENTS OF LINUX OPERATING SYSTEMS

Ubuntu is a free open-source Linux operating systems which is especially designed to be used in the field of education. It has a lot of educational applications and tools which help students in their studies.

Desktop

The first screen that appears covering the entire screen with two bars, one on its top and other on its left, is called the **Desktop**. The image in the background is called the **Desktop Wallpaper**. The small labelled pictures or symbols present on the desktop are called **Icons**. These icons are used to open specific programs or documents.

Let us understand each component of a desktop in detail:

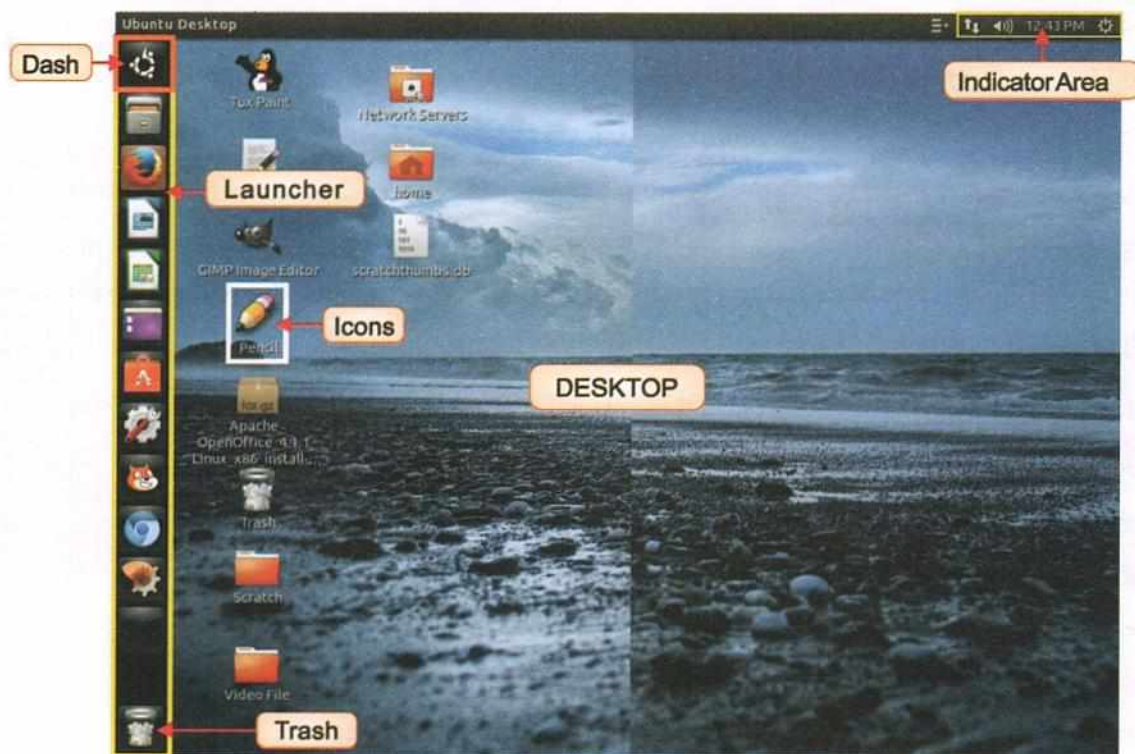


Fig. 11.4: Edubuntu Desktop

The Menu Bar

The Menu bar is a long horizontal bar located at the top of the desktop. It includes common functions used in Ubuntu.


Indicator Area

On the right side of the Menu bar lies the **Indicator Area**, which shows clock, calendar, speaker volume, etc.

The Launcher

Launcher is the vertical bar on the left side of the desktop. Here you can add commonly used programs, which can be opened easily whenever required. The **Trash** at the bottom, stores the deleted files. The Launcher also shows the applications icons that are currently running on your computer.

The Dash

It is the topmost icon on the Launcher and has Ubuntu logo on it. Its function is similar to the Start menu of Windows. When you click on the Dash icon , a window opens up towards its right. This window has a Search bar at the top and the icons of recently used applications, files, and downloaded items at the bottom.



A. Fill in the Blanks:

1. Windows is a very popular operating system because of its environment.
2. is the first screen displayed after switching-on windows.
3. at the right side of the taskbar includes a clock and group of icons.
4. Small graphic symbols displayed on the desktop are called
5. The is used by Windows computers to store deleted items.

HINTS

-  Notification area  Desktop  Recycle Bin  Icons  User-friendly

B. State True or False:

1. Start button is located on the extreme right side of the Taskbar on the Windows desktop.
2. The desktop background is called the Wallpaper.
3. Linux operating system was developed by Microsoft Corporation.
4. Ubuntu is a free open-source Linux operating systems.

C. Answer the Following:

1. What is Linux? Discuss a few features of Linux.
2. What is a Screensaver?
3. What is Recycle Bin in Windows? How to empty it?
4. How to setup system date and time in Windows?
5. Define Icon. Mention some of the important icons present on Windows 7 desktop.



ACTIVITY ZONE

For Better Concept Clarity

Prepare a presentation on the components of Windows 7 desktop.

Introduction to Internet

Internet is a global system of interconnected computer networks that enables the users to share information and various resources with each other. It uses common communication standards and interfaces to provide the physical backbone for a number of interesting applications.

APPLICATION OF INTERNET

Internet is a boon to the world. Almost every aspect of our life is touched by the Internet. Interestingly, Internet provides 24x7 services. Some of the common uses of Internet are as follows:

- ✦ Education
- ✦ E-mail
- ✦ Business
- ✦ E-Commerce
- ✦ Media and Entertainment
- ✦ Social Networking
- ✦ Forum:
- ✦ Health and Fitness

DISADVANTAGES OF INTERNET

Internet has become an important and integral part of our personal and professional life today. However, it is a tool, which must be handled with caution, as its misuse can be very harmful. Some of the threats of Internet are as follows:

- ✦ Virus Threat
- ✦ Spamming
- ✦ Cyber Crime
- ✦ Pornography
- ✦ Cyber Terrorism
- ✦ Time Wastage

WORLD WIDE WEB

The **www** (world wide web) or simply web is a means of accessing information over the Internet. It contains millions of documents or 'bunch of pages' called Web Pages. Each page contains text, graphics, video, audio, and is linked to other web pages via hyperlink. The web uses the HTTP (Hyper Text Transfer Protocol) for the transmission of these documents over the Internet.

WEB BROWSER

Web browser is a software that is used to view websites. It is an interface between a user and the World Wide Web. A web browser can have a graphical user interface, e.g., Internet Explorer, Mozilla Firefox, Google Chrome, Opera, or can be text-based, e.g., Lynx. The user can navigate files, folders and websites using hyperlinks. Multiple tabs and windows of the same browser can be opened. The features and facilities offered by a web browser include downloads, bookmarks, and password management. It also offers functions, like spell checking, search engine tool bars, tabbed browsing, advertisement filtering, HTML access keys, and pop-up blocking.

The most popular web browsers are:



Google Chrome



Mozilla Firefox



Apple Safari



Microsoft Internet Explorer (MSIE)



OPERA



Microsoft Edge

WEBSITE

A website is a collection of related web pages containing images, videos, or other digital media set under the same domain name. These pages are written in Hyper Text Mark Up Language (HTML) and can be accessed via Internet. A website is hosted on a web server on the World Wide Web. Each site is owned and managed by an individual, a company, or an organization. Components of a website are:

1. Domain Name
2. Web Host
3. Site Files
4. Content Management System (CMS)

WEB PAGE

Web page is a digital page which may contain text, hyperlink, videos, audios, images, tables, etc. It is commonly written by using HTML (Hypertext markup language) and is stored on a web server. Each webpage is identified by a unique web address called Uniform Resource Locator (URL). Basic elements of a web page are:

1. Page Title
2. The Header area
3. The Navigation Menu
4. Content Area
5. Footer

There are two types of web pages:

1. **Static web pages:** The contents of static web pages remain stationary irrespective of the number of times it is viewed. Such web pages are suitable for the contents that never or rarely need to be updated.
2. **Dynamic web pages:** The contents of a dynamic web pages is generated for the user at the time one request for the page. The document you view exists only for you at that moment; if viewed by someone else at the same time, or by you at a slightly different time, you could get something different.

DIFFERENCE BETWEEN WEB PAGE AND WEBSITE

A website is a collection of web pages, connected by links. It contains information on a subject, whereas web page is a single page of content on a website which contains more specific information. We can compare a website with a book and a webpage with the particular page of that book.

PROTOCOL

It is a standard set of rules used for communicating or transferring data on internet. These rules include what type of data may be transmitted, what commands are used to send and receive data, and how data transfers are confirmed.

HTTP

Hypertext Transfer Protocol is an application layer protocol for transmitting hypermedia documents, such as HTML. It is designed to establish communication between web browsers and web servers.

HOME PAGE

It is the first web page of a website. It is the main page where visitors can find hyperlinks to other pages on the site.

UNIFORM RESOURCE LOCATOR (URL)

The Uniform Resource Locator denotes the global address of the web documents and the web resource. Internet communication is the main reason for identifying a resource on the web. The URL has two parts:

1. **Protocol Identifier:** It tells the Internet browser what protocol needs to be followed to access the address.
2. **Resource Name:** It specifies the complete address of the resource on the Internet.

<http://www.mygov.in>
↑
Resource Name



A. Multiple Choice Questions:

1. HTTP is an acronym for
a. HyperText Transfer Protocol
b. HyperText Transcript Protocol
c. HyperTech Transfer Protocol
d. HyperTech Transcript Protocol
2. A web page is written using language
a. C++ b. Python c. HTML d. Java
3. A set of rules used to communicate in a network is called
a. Hyperlink b. Web page c. Satellite d. Protoco
4. A unique name given to each website is called.....
a. Domain b. TCP/IP c. Web Name d. Title
5. Chrome and Internet Explorer are popular
a. Websites b. Search Engines c. Web Browsers d. Internet Service Providers

B. Fill In The Blanks:

1. Web browser is an between a user and the World Wide Web.
2. Web pages are written in
3. The denotes the global address of the web documents and the web resources.
4. The contents of a web page never or rarely needs to be updated.
5. A can be compared with a book and a with the particular page of that book.

HINTS

Static Website HTML URL Webpage Interface

C. Answer The Following:

1. What is Internet? What are its applications?
2. What do you understand by the term Web Browser? Mention some popular web browsers.
3. What is the difference between a Website and a Web page?
4. Define URL. Explain with example.



ACTIVITY ZONE

For Better Concept Clarity

Make a list of URLs (5 each) of the e-commerce, education, social networking and news websites.

Introduction to E-mail

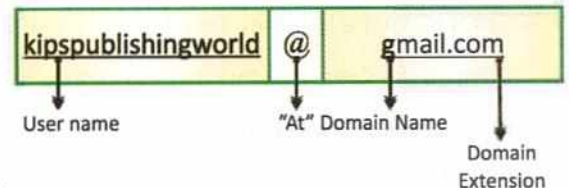
Today, in this digital communication era, e-mail (i.e., Electronic Mail) proves to be the biggest asset in sending and receiving messages from one computer to another. It allows us to communicate quickly with people around the world at any time. E-mail is an economical mode of communication. It facilitates you to send the same message to more than 100 people at the cost of a local phone call. It also helps in reducing the wastage of paper.

APPLICATIONS OF E-MAIL

- ✦ Cost of sending an electronic message is nominal.
- ✦ Messages are sent and received instantly.
- ✦ E-mails never get lost and do not reach the wrong destination.
- ✦ E-mail allows us to be in touch with the people who are staying far away, in no time.
- ✦ We can attach pictures, videos, sounds to our e-mails, and can send these to anyone across the globe.
- ✦ We can read, print, forward, reply, delete, or save the received messages.
- ✦ E-mail is usually packaged with many productivity tools, such as an address book, calendar, instant messenger and more for convenience.
- ✦ E-mail provides the customer verification, required to use other web services, like Social-networking, Online shopping, etc.
- ✦ E-mail can be accessed anywhere at any time on any computer or mobile device that has an Internet connection.

E-MAIL ACCOUNT

E-mail Account is an electronic mailbox on a network where e-mails can be sent. An Email Account acts as a virtual address for Email Messages. It is provided to you by your Email Account Provider (in most cases your Internet Service Provider) and contains information about your Username, Email Account Provider, Password and Email Settings. To read or download these e-mails, you must supply your account name and password.



E-MAIL ADDRESS

E-mail address is a name that uniquely identifies an e-mail account on a network. To send and receive e-mails, we need to have an e-mail address. While sending an e-mail, we enter the e-mail address(es) of the recipient(s), so that the computer knows where to send it. The e-mail addresses can be written either in capital letters or in small letters. It does not contain spaces, e.g., abc@gmail.com.

An e-mail address usually consists of two parts, separated by the @ ('at') symbol.

E-MAIL PROGRAM

For using web-based e-mail, one needs to first register with an e-mail service provider in order to get a free account and create a login with a username and password. This username is the e-mail address which becomes operational. Using

this e-mail address and password one can login to the web-based e-mail. After logging in, one can create, send, receive, forward, and delete e-mails.

Some of the well-known free web-based e-mail services are:

- i. Gmail.com
- ii. Yahoo.com
- iii. MSN.com



E-MAIL MESSAGE FORMAT

All e-mail messages irrespective of the e-mail software have the following format :

E-mail Message Format	
From	E-mail address of the sender.
To	E-mail address of the recipient.
Subject	The topic of the message.
Cc	Cc stands for Carbon Copy. List of e-mail addresses to whom the mail has also been sent. All the recipients of the mail can see all the addresses in To and Cc.
Bcc	Bcc stands for Blind carbon copy. Like Cc, this also contains a list of multiple recipients' address to whom the copy of the message is to be sent but the receiver cannot see the other recipients' addresses in the Bcc list.
Message body	The actual content of the e-mail.

CREATING AN E-MAIL ACCOUNT

Let us understand how to create an e-mail account and get our e-mail address:

- ✦ Connect to the Internet. Open the website www.gmail.com.
- ✦ Click on the **Create account** link and proceed to the next page.
- ✦ A registration form will appear. Fill the registration form, choose a username and password.
- ✦ Accept the agreement. An e-mail account gets created if all the entries have been filled properly.

After creating an e-mail account, it can be used to send and receive e-mails. To use the e-mail account, one must login with the username and the password.

INBOX

It displays information about all the received mails. Each message header displays the sender's name, subject line, time, and date when the mail is received, and sometimes the size of the message too. To read any mail, click on it. The mail will be displayed in a new window.

COMPOSE / WRITE MAIL

To write a mail, one has to click on the **Compose** option (or any other similar option provided by the website). It will open a new window with the following components:

The screenshot shows the 'Create your Google Account' form. It includes fields for 'First name', 'Last name', 'Username' (with a hint '@gmail.com'), and 'Password' (with a hint 'Use 8 or more characters with a mix of letters, numbers & symbols'). There are also 'Sign in instead' and 'Next' buttons.

Fig. 13.1: Creating an E-mail Account

TO

Here, we can type the e-mail address of the person, to whom we want to send the e-mail.

CC

Cc stands for **Carbon Copy**. In this field, one can specify the addresses of the persons to whom one wants to send a copy of the mail. The e-mail addresses mentioned in this field are visible to all the recipients of the mail.

BCC

Bcc stands for **Blind Carbon Copy**. It is also used to send a copy of the mail to several people, but the e-mail addresses mentioned in this field are not visible to other recipients of the mail.

SUBJECT

It is a brief description of the mail, which gives an idea about the content of the message.

MESSAGE

You can type the message just like a normal letter with greetings, one or more paragraphs, and your name at the bottom. You can also format the text using the available features.

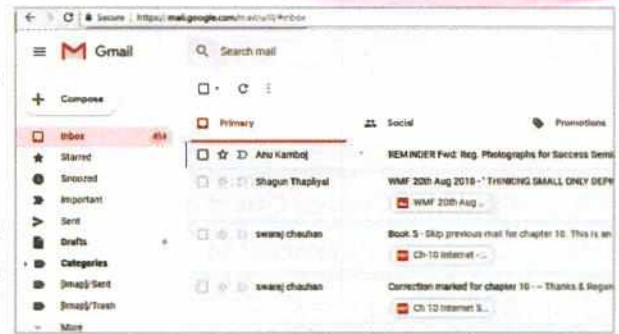


Fig. 13.2: Inbox of gmail.com

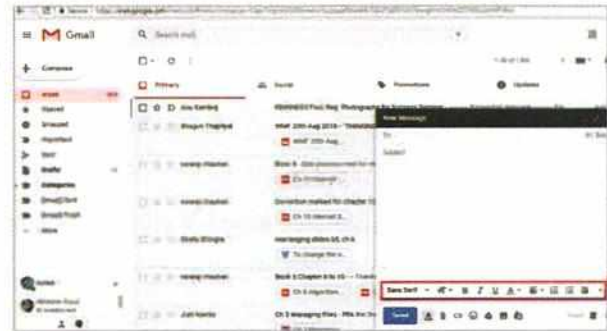



Fig. 13.3: Sending an E-mail

SENDING E-MAIL

After composing an e-mail, click on the **Send** button. The mail will be sent to its recipient/recipients.

ATTACHING A FILE

E-mail provides the facility to attach files for high speed delivery, anywhere in the world. Attaching a file to an e-mail is an easy way to send important documents or files, which can be photographs, videos, music, or text. To attach a file to an e-mail, follow these steps:

- ★ Click on the **Attach a file** icon  on the toolbar at the bottom of the **Compose** window.
- ★ The **Open** dialog box will appear.
- ★ Browse through your files and select the file you would like to attach.
- ★ Click on the **Open** button. The file gets attached to your mail. Now click on the **Send** button.

Always remember, you cannot send executable files or messages larger than 25 MB as an attachment.

Nowadays, the Internet provides some emerging technologies that enable us to transfer files beyond 25 MB. Some of the most popular services are WeTransfer and Sendspace.

REPLYING AND FORWARDING E-MAIL

The **Reply** option is displayed when we open any mail. It is used to reply to a received e-mail. Click on the **Reply** button, type in the text, and then click on the **Send** button.

The **Forward** option is used to send any received mail to other e-mail address(es).



ASSESSMENT TIME

A. Multiple Choice Questions:

- folder of an e-mail account contains all the received mails.
a. Inbox b. Drafts c. Trash d. Spam
- An unwanted mail or message sent to a large number of people is called
a. Worm b. Spam c. Virus d. Trash
- An E-mail address consists of two parts separated by the '@' symbol, a User Name and a
a. Address b. Domain ID c. URL d. Domain Name
- Which of the following is not a free web-based e-mail services?
a. Gmail.com b. Facebook.com c. Yahoo.com d. MSN.com
- In an E-mail message, Cc stands for
a. Carbon copy b. Cannot copy c. Can copy d. Contains copy

B. State True or False:

- E-mail is an expensive mode of communication.
- In an E-mail message, Bcc stands for Blind carbon copy.
- All the received mails are automatically stored in the Trash folder.
- No video, music or text file can be attached to an E-mail.
- In the To section of an E-mail message, we can type the e-mail address of the sender.

C. Answer The Following.

- What are the two parts of an E-mail address? Briefly explain each of the.
- Why is E-mail so popular over conventional mails?
- What are the parts of an E-mail?
- Discuss the procedure to attach a file to an E-mail message.



ACTIVITY ZONE

For Better Concept Clarity

Create an E-mail account on www.outlook.com and send a mail to your friends telling them about your plans for the upcoming vacation.

Introduction to Social Media

A Social Networking Site is an online platform that facilitates the building of social networks or social relation among people who, share similar interests, activities, backgrounds, or real-life connection. Social networking can be done for social purposes, business purposes, or both. Social, networking sites are also called Social Media. In a social networking website, users create profiles, which contain information about them, create a list of users with whom to share connections, and organise their social networks.

Some popular social networking sites are:

- ✦ Twitter
- ✦ Facebook
- ✦ YouTube
- ✦ WhatsApp

FEATURES AVAILABLE ON SOCIAL MEDIA

- ✦ Build Profile
- ✦ Simple Interface
- ✦ Media Galleries
- ✦ Photo Albums
- ✦ Communities
- ✦ Conversations
- ✦ Tags
- ✦ Chat Facility
- ✦ Activity Record
- ✦ E-mail Alerts
- ✦ Real Time Updates
- ✦ Free Web Address:

MERITS OF SOCIAL MEDIA

- ✦ Easier To Connect
- ✦ Create New Connections
- ✦ Free Business Promotions
- ✦ Aids In Criminal Cases
- ✦ Spreads Information Incredibly Fast

DEMERITS OF SOCIAL MEDIA

- ✦ Cyber Bullying
- ✦ Less Real Life Interaction
- ✦ Addiction
- ✦ Misleading Information
- ✦ Misuse of Information
- ✦ Fake Profiles
- ✦ Peer Pressure

BLOG

A blog is an easy-to-create website that allows users to share their thoughts with the world. The topic of the blog can be anything from personal to professional. A **blogger** is someone who blogs or writes content for a blog. A blogger can provide links to other websites that he/she considers might interest the audience. Blogging can be an interactive activity. Readers can add comments to a blogger's postings, other persons can respond, and a conversation ensues.



TYPES OF BLOGS

There are various types of blogs available on the web. We can categorize them into the following categories:

- ✦ Personal blog
- ✦ Company blog
- ✦ Non-profit blog
- ✦ Politics blog
- ✦ News and Views blog
- ✦ Micro-blog

TWITTER

Twitter is a free social networking and microblogging service. Twitter offers a platform to share the brief information or the links for interesting news or topics that can benefit people. It is the 13th most visited websites worldwide. It has been termed as the "SMS of the Internet".

Salient features of Twitter include:



Twitter Handle: A Twitter handle is the term for a user's account name on Twitter. It is listed by putting an '@' symbol before the username.

Tweets: Subscribers use Twitter to communicate and broadcast short messages called Tweets. Tweets were initially restricted to 140 characters, which has now changed to 280 characters. Posting the messages is called 'Tweeting' and reposting someone else's tweet is called Retweeting. Tweets are instantaneous, within seconds they can spread news or announcement worldwide.

Hashtags: People use the hashtag symbol (#) before a relevant keyword or phrase in their Tweet to highlight the keywords or topics.

Follow: The users can search and connect with other people by 'following' them on Twitter and tweet in them. You can also 'unfollow' people if you do not wish to include their tweets in your twitter feed.

Twitter feed (or Timeline): It is an ongoing stream of tweets from the users that you follow.

FACEBOOK

It is another popular social networking website which is used to connect with people online. It also provides free registration and a user-friendly platform. Initially, it was only PC based, but now it is also available as a pre-installed app on most of the mobile phones and tablets.



Following are a few of its most popular offerings:

Friends List: It allows registered users to create their profiles and create a list of their contacts, called 'Friend' in the Facebook language.

Walls: It is essentially a virtual bulletin board where members can post messages, pictures, or videos and share links to their Facebook friends.

Virtual Photo Album: This feature allows members to upload an unlimited number of photos. The members, 'friends' may comment and identify or 'tag' people in the photos.

Status Update: It is a microblogging tool that helps the users to broadcast short announcements about themselves.

Facebook Pages: This feature was initially designed for business use. It allows businesses to publish content on a public page and receive comments.

News Feed: This feature constantly updates list of stories in the middle of your home page. News feed includes status updates, photos, videos, links, app activity and likes from people, pages, and groups that you follow on Facebook.

Privacy Controls: Facebook provides a customisable set of privacy controls, so users can protect their information from getting exposed to third-party individuals.

YOUTUBE

YouTube is a free video sharing website. You can find all kinds of user generated videos on YouTube, such as tutorials, cooking lessons, exercise tips, music, comedy, and a lot more. It allows you to:



- ✦ Select videos from a grid of recommended and trending videos You can watch, like, share, and comment on the videos.
- ✦ Manage subscriptions, replay from history, manage playlists, or choose videos from various categories,
- ✦ Download and Upload videos from your computer or mobile phones.
- ✦ Choose the privacy settings of your channel.
- ✦ Edit your videos to give them a professional look using various editing tools like Combine, Trim (cut or Snip).

- ✦ Employ Parental Control and Safety Mode features to restrict the types of videos your children can watch.

WHATSAPP

WhatsApp is a free to download messenger app for smartphones. Some interesting facts about WhatsApp are as follows:

- ✦ WhatsApp is one of the most popular instant messaging apps worldwide.
- ✦ WhatsApp now offers high-quality voice as well as video calling.
- ✦ The cost of using WhatsApp is significantly less than texting.
- ✦ It has a simple interface and many useful features, such as group chatting, video calling, location sharing, etc.,
- ✦ WhatsApp allows you to format the selected text of your message in Italic, Bold, Strikethrough, underscore, asterisk (*), tilde (~), and Monospace.



ASSESSMENT TIME

A. Fill in the Blanks:

1. popular social networking website which is used to connect with people online.
2. One can find all kinds of user generated videos on
3. is a free to download messenger app for smartphones.
4. Social networking sites are also called as social
5. Social networking sites are highly popular due to their simple

HINTS

- YouTube
- Interface
- Media
- WhatsApp
- Facebook

B. State True or False:

1. YouTube is a paid video sharing website.
2. Facebook is a social networking website used to connect with people online.
3. Parental Control and Safety Mode features are available on YouTube.
4. WhatsApp doesn't offer voice or video calling facility.
5. YouTube facilitates you to download videos so that you can watch them later offline.

C. Answer the Following:

1. Mention names of some of the popular social networking websites.
2. What are the demerits of social media?
3. What do you understand by a Blog?
4. State some of the features of YouTube.
5. What is Facebook? Mention some of its features.



ACTIVITY ZONE

For Better Concept Clarity

- ✦ Download an educational video on YouTube to watch it offline at a later time.
- ✦ Send a link of the same video through WhatsApp to your class WhatsApp group.



Recap



- ✦ Information and Communication Technology (ICT) refers to all the devices, networking components, applications, and systems that allow people and organisations to interact in the digital world.
- ✦ ICT is very helpful to various sectors such as workplaces, healthcare, education, governance, business, etc.
- ✦ A computer is an electronic device that can perform a variety of tasks by executing a given set of instructions.
- ✦ CPU is the main unit of a computer which consists of Memory Unit, Arithmetic and Logical Unit, and Control Unit.
- ✦ DRAM, SRAM, DDRAM and DDR are the types of Random Access Memory.
- ✦ PROM, EPROM, EEPROM and Flash Memory are types of Read Only Memory.
- ✦ Peripheral devices are those hardware components that are attached to a computer and are controlled by the computer system, but they are not the core components of the computer.
- ✦ POST (Power On Self Test) checks the functioning of all the connected hardware, including primary and secondary storage devices during booting the computer system.
- ✦ The Operating System acts like an interface between the user and the computer. It is the master program, which makes our PC alive and helps to run different applications.
- ✦ Windows has become very popular because of its user-friendly environment, noticeable speed improvement, and its modest system requirements.
- ✦ BlackBerry, Android, iOS, Symbian, Windows Mobile are some of the popular mobile operating systems.
- ✦ The Windows taskbar is located at the bottom of the screen, which allows you to locate and launch programs through Start and the Start menu, view any program that is currently open, or to check the current date and time.
- ✦ The desktop of Ubuntu Linux contains Menu bar, Indicator area, Icons, Launcher, Dash and Trash.
- ✦ HTTP (HyperText Transfer Protocol) is used for transmission of data over the Internet.
- ✦ A website is a collection of related web pages containing images, videos, and other digital media.





SECTION 1: OBJECTIVE TYPE QUESTIONS--(SOLVED)

A. Multiple Choice Questions:

- The final output available to a user on the monitor is known as
a. Hardcopy b. Software c. Softcopy d. Bytes
- The component which is responsible for all mathematical calculations and logical operations of a computer is called
a. ALU b. CU c. MU d.ROM
- The type of ROM which can have its contents erased by ultraviolet light is called
a. PROM b. EPROM c. EEPROM d. Flash memory
- Which of the following is not an I/O device?
a. Printer b. CPU c. Plotter d. Scanner
- Which device scans images, documents, and saves them on a computer as a digital image?
a. MICR b. Joystick c. Scanner d. Plotter
- The full form of Cc in E-mail is
a. Copy cat b. Copy content c. Cannot copy d. Carbon copy
- A is the interface between a user and the World Wide Web.
a. Web site b. Web server c. Web portal d. Web browser
- Deleted E-mails are stored in
a. Trash b. Spam c. Inbox d. Draft
- is a free video sharing website, where videos on all subjects and topics can be found.
a. Twitter b. Facebook c. YouTube d. WhatsApp
- Data is stored temporarily in
a. ROM b. Hard Disk c. DVD d. RAM

B. Fill in the blanks:

- A microprocessor is a type of integrated circuit, built on a tiny piece of
- Blue-violet laser beam is used to read and write a
- is a combination of dark and light stripes printed on the packing of various products.
- The picture on a monitor is made up of thousands of small coloured dots called
- devices are all hardware components that are attached to a computer and are controlled by the computer system.
- B in Bcc stands for
- plotter is used to produce continuous output such as plotting earthquake activity.
- acts as the nervous system for a computer.
- The primary use of ROM is during the process.
- is a very high speed memory which stores frequently used instructions.

C. State True Or False:

1. Operating system is a very important application software.
2. An LCD monitor allows the user to input information by touching the icons on the screen.
3. GUI stands for Graphical User Interface.
4. Nibble is a group of 8 bits.
5. Light pen is a light sensitive pointing device.
6. Primary memory is used to store large amount of information.
7. Subscribers use Facebook to communicate and broadcast short messages called Tweets.
8. E-mail address is a unique identifier of your E-mail account.
9. URL stands for Uniform Resourceful Location.
10. iOS mobile operating system has been developed by Google.

ANSWERS									
A. Multiple Choice Questions									
1. (c)	2. (a)	3. (b)	4. (b)	5. (c)	6. (d)	7. (d)	8. (a)	9. (c)	10. (d)
B. Fill in the Blanks									
1. Silicon	2. Blu-ray disk	3. Bar code	4. Pixels	5. Peripheral	6. Blind	7. Drum	8. CU	9. Booting	10. Cache
C. State True or False									
1. (F)	2. (F)	3. (T)	4. (F)	5. (T)	6. (F)	7. (F)	8. (T)	9. (F)	10. (F)

SECTION 2: THEORY QUESTIONS--(SOLVED)

1. What do you mean by Social Media? What is the purpose of using a social networking website?

Ans: A Social Media is an online platform that facilitates the building of social networks or social relations among people who share interests, activities, backgrounds, or real-life connections. Social networking can be done for social purposes, business purposes, or both.

2. What is the function of CPU of a computer? Explain its three components.

Ans: CPU stands for Central Processing Unit and is also known as the 'brain of a computer'. The CPU receives data from the user as input, interprets and executes it, and presents the output as information. The CPU has three main components:

- ✦ The Arithmetic and Logic Unit (ALU) carries out the basic calculations and comparison operations on the data.
- ✦ The Control Unit (CU) controls and coordinates the functions of the various devices attached to the CPU.
- ✦ The memory unit (MU), is the principal storage of a computer that can store the data and instructions either temporarily or permanently.

3. Differentiate between RAM and ROM.

Ans:	RAM	ROM
	RAM stands for Random Access Memory.	ROM stands for Read Only Memory.
	It is volatile in nature, i.e., the data gets erased if the power supply is switched off.	It is non-volatile, i.e., the data is not lost even when the power supply is turned off.
	It is a temporary memory.	It stores data permanently.

4. What is an operating system? Discuss any two functions of operating system.

Ans: It is a program that acts as an interface between the software and the computer hardware. It is a specialised set of programs to manage the overall functioning of a computer and its resources.

The main functions of operating system are:

Processor Management: An operating system manages the working of the processor by allocating various jobs to it.

Memory Management: An operating system manages the sharing of internal memory among multiple applications.

5. What do you mean by DOS? Why is it known as a CUI?

Ans: Disk Operating System (DOS) is a type of system software that runs from a hard disk drive. It is known as a CUI (Character User Interface) because it allows a user to type the commands at its prompt (For example, C:\>) for every action to be performed on the computer.

6. Briefly explain the application of computers in the field of banking and library.

Ans: **Banking:** In the banking sector, computers provide a lot of facilities to the customers. Using online banking, you can check your past transactions. Money can be transferred to any account across the globe. Internet banking also allows you to use ATM or debit card to shop, buy tickets, pay bills for utility services, like electricity, telephone, and post paid mobiles. You can even subscribe to free monthly bank account statements and apply online to open fixed deposits.

Library: A computer helps to maintain the records of the issue and deposit date of books, encyclopedias, CDs etc. It also helps in indexing and searching for a particular book. Various magazines and journals can be read online.

7. What is the difference between RAM and ROM?

Ans:

	RAM	ROM
1.	Random Access Memory is volatile i.e., the memory is temporary.	Read Only Memory is non volatile i.e., the memory is permanent.
2.	We can read and write the data present in the RAM.	We can only read the data present in ROM.
3.	RAM stores the application programs.	ROM stores the initial program to start a computer.
4.	The types of RAM are SRAM, DRAM, SDRAM, and DDR.	The types of ROM are PROM, EPROM, EEPROM, and Masked ROM.

8. What is the need of Secondary memory?

Ans: Secondary memory is used to store a large amount of data and instructions permanently. The main memory of a computer is temporary, expensive and has limited storage capacity. Therefore, data has to be stored separately in a secondary back up device. This will keep the information permanent and accessible for longer duration of time.

9. Explain the difference between EPROM and EEPROM.

Ans:

	EPROM	EEPROM
1.	The contents can be erased using ultraviolet rays and then reprogrammed by an EPROM programmer.	In this type of ROM the contents can be erased by using high voltage electricity.
2.	While erasing contents by using ultraviolet rays, the entire content has to be erased.	The entire contents may not be erased as it has the option to delete selective portions of memory.
3.	The chip needs to be physically removed from the system for erasing the bits.	The chip does not need to be physically removed from the system for erasing the bits.

10. What do you specify in the Cc field of an E-mail?

Ans. While composing an E-mail, you specify the address of the persons to whom you want to send a copy of the mail. The E-mail address(es) mentioned in this field are visible to all the recipients of the mail.

11. Write the full form of PROM, EPROM, EEPROM, SRAM, and DRAM.

Ans: PROM - Programmable Read-Only Memory
EPROM - Erasable Programmable Read-Only Memory
EEPROM - Electronically Erasable Programmable Read-Only Memory
SRAM - Static Random Access Memory
DRAM - Dynamic Random Access Memory

12. What is Blu-ray disk? Briefly state its features.

Ans: Blu-ray disk is a next generation optical disk format which enables the ultimate high definition entertainment experience. It gets its name from the blue-violet laser which is used to read and write this disk. It has large storage capacity of 25 GB single layer and 50 GB dual layer. It is robust in nature and is used to record and playback high quality picture and audio. It has a maximum picture resolution of 1080p to provide high definition picture quality. It is also compatible with the existing DVD libraries.

13. Which technology is used in a Laser printer? What are its basic features?

Ans: Laser printers use photocopy technology to print. They use a laser beam and dry powdered ink to produce a high quality dot matrix pattern. They can print graphic images too. They are ideally used when good quality and large scale printing is required. The resolution is very high, approximately 600-1200 dots per inch.

14. What is an Operating System? Name the major functions of the Operating System.

Ans: An Operating System is a system software that acts as an interface between the computer and the user. The computer interprets all the instructions given to it through the Operating System. It is the master program which helps to run different applications in the computer.

Some of the major functions of an Operating System are:

- | | | |
|-------------------------|----------------------|---------------------------------|
| 1. Processor Management | 2. Memory Management | 3. Device Management |
| 4. File Management | 5. Job Scheduling | 6. Error Detection and Security |

SECTION 3: APPLICATION BASED QUESTIONS--(SOLVED)

1. Deepak wants to share some pictures of his holidays in Shimla with his Uncle who lives in Canada, through a computer. Which input device should he use?
2. Suppose you have assembled a computer for the first time. After assembling all the parts successfully, which will be the first software to be installed into the computer?
3. Everyday Goods super market uses an input device to sense and read the black stripes present on the items for billing purposes. Which device is it?
4. While working on Windows, Reena has accidentally deleted some files from her computer. Can they be retrieved? If yes, where should she find them?

ANSWERS

- | | | | |
|------------|---------------------|--------------------|---------------------|
| 1. Scanner | 2. Operating system | 3. Bar code reader | 4. Yes, Recycle Bin |
|------------|---------------------|--------------------|---------------------|

SECTION 4: APPLICATION BASED QUESTIONS--(UNSOLVED)

1. I am a component of CPU which performs logical operations. Identify me.
2. An important conference is going on in an office. During the conference, the manager wants 100 copies of high quality printout of an important circular. Which type of printer should he use?
3. My Mom has phone numbers of all her friends. She wants to share her recipes along with food photos with all her friends. What type of messaging service should she use?
4. Rishabh wants to explore various types of travelling videos for his travel portal. Which website should he use?

5. Mr. Sharma wants to send an E-mail to his boss. At the same time he wants to send a copy of the same to his colleague also but doesn't want his boss to know about that. What should he do now?

SECTION 5: SHORT ANSWER TYPE QUESTIONS--(UNSOLVED)

1. What are the three components of a CPU
2. Define register.
3. Name two types of primary memory.
4. Which unit is used to measure the speed of CPU?
5. What is DOS?
6. Define Desktop
7. What is Social Media?
8. Define System software
9. Name two types of Impact printers.
10. What is Recycle Bin?

SECTION 6: LONG ANSWER TYPE QUESTIONS--(UNSOLVED)

1. Mention some of the ICT tools being used in the field of education.
2. What is the role of ICT in governance?
3. What is primary memory? Mention its types.
4. What is the difference between CRT, LCD and LED monitors?
5. What is Cache memory? What are its advantages?
6. What is the difference between primary memory and secondary memory?
7. Mention some of the good and bad effects of Internet.
8. What do you understand by an E-mail? List any two advantages of E-mail.
9. How to create an E-mail account?
10. What do you understand by Social Networking? What are its advantages and disadvantages?



ACTIVITY ZONE

For Better Concept Clarity

1. Create a presentation on input and output devices.
2. Create a presentation on Windows 7 Operating System.

GROUP DISCUSSION



1. Divide the class into four groups and ask them to gather information on the use of ICT in the respective field:
✦ Education ✦ Healthcare ✦ Business ✦ Governance
2. Divide the class into two groups and conduct discussion among them on the topic, 'Features of CUI and GUI'
3. Divide the class into two groups to discuss about the advantages and disadvantages of social media.

Types of Business Activities

All of us possess an inherent aptitude. We need to identify our area of interest and inner strengths, and develop our skills. In every sphere of our life, we face tough competition and various challenges. To have a winning attitude, we need to be optimistic and think differently.

After completing your education, what career would you like to pursue? Would you like to explore different job opportunities, prepare for competitions, and appear for competitive tests and interviews? Yes, you can think about that, but there is also a choice to become self-employed. Here, you can pursue your passion and be your own boss. How about becoming an entrepreneur?



ENTREPRENEURIAL SKILLS

Who is an 'entrepreneur'? An entrepreneur is a person who takes the initiative of starting a business, bears the risk of investing money, manages at all levels, and is responsible for its success or failure. A business or a company is known as an 'enterprise'. An entrepreneur can be an artist, educator, professional, restaurateur, businessman, or an inventor. Entrepreneurs play a significant role in society because they provide goods and services to people and create employment opportunities in society. Entrepreneurs can be from any socio-economic background. Can you think of some entrepreneurs who provide different products or services to you?



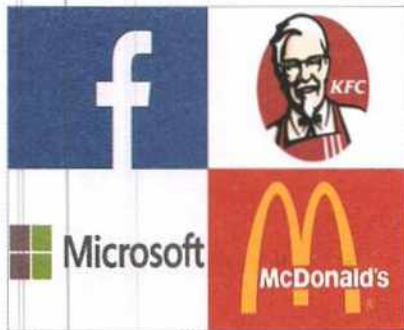
SOME ENTREPRENEURS IN THE LOCAL COMMUNITIES

The shopkeepers that you see in a shopping complex are all entrepreneurs who are engaged in different types of business activities. The most popular business in any local community is of grocery items. The grocery stores deal in FMCG (Fast-Moving Consumer Goods) which include perishable as well as non-perishable items. These are packaged goods that are sold quickly and at a relatively low cost. For example, packaged food items, chocolates, beverages, toiletries, ration, and many other consumables.

Some entrepreneurs deal in businesses which provide daily life essentials, such as vegetable and fruit vendors, chemist shops, salons, tailoring shops, dry cleaners, doctor's clinics, restaurants, and food outlets.

There are some other businesses which are very important in any neighbourhood, for example, photocopying and printing services, books and stationery shops, gift stores, electrical goods and appliances shops, electronic repair shops, readymade garments store, coaching centres, playschools, and crèche facilities.





If you take a look at the world around you, you will find the entrepreneurs from all age groups. Some entrepreneurs have been successful at a very young age, while others have struggled and prospered over time. For example, Facebook and Microsoft were started by youngsters in their twenties, whereas the founders of McDonald's and KFC were in the late fifties when they started their ventures!

However, a few things common among them all are that they capitalised on their talent, took the initiative and the risk to start their own business, and worked hard to achieve their goals.



Example

Mark Zuckerberg became one of the youngest billionaires with his talent and skills at computers. So, how did a young computer programmer come to lead one of the most influential global companies? It is because he was determined to do something new by using his special talent at computers. He recognised the need of the hour, i.e., to connect with people. He identified a potential market for his idea and capitalised on the idea of connecting people using his technological skills.



The field of entrepreneurship is full of opportunities for those who have a dream. Now, it is your turn to start thinking about what you would want to do in the future. What are your talents? Explore and identify your area of interest and be confident and bold to take up new challenges in life. Be on a lookout for the gaps (business opportunities) in the existing market, and try to find out a profitable solution for it. Be innovative, so that you stand out from the others in the market. As **Malcolm X** correctly said, ***"The future belongs to those who prepare for it today."***

Let us understand the day-to-day activities of an entrepreneur with the help of an example of a grocery store.

You must have visited the grocery store near your house. Here are some activities that are a part of the business.



- ◆ The shopkeeper purchases goods for his shop.
- ◆ He sells his goods and keeps on adding fresh stocks.
- ◆ His sales and earnings may fluctuate. (During some months the sale may be very good, for example, during festivals, while at other times the sale may be low.)
- ◆ At times there may be many customers and all of them may want to be attended immediately.
- ◆ The customers may even get angry and argue with him.
- ◆ He has to be calm and patient at all times.
- ◆ He has to handle the cash carefully without making any mistake.
- ◆ He has to pay salaries to his employees.
- ◆ If it is a rented shop, he has to pay the rent of the shop.
- ◆ He has to pay the electricity bill for his shop.
- ◆ He has to spend on the maintenance of the shop.



Thus, we see that a shopkeeper has to manage so many things. You can see that a businessman needs to develop skills related to finance, sales, marketing, management, and accounting. One also needs to develop skills, such as being innovative, excellent communication skills, and a lot of patience. To understand and develop all the required entrepreneurial skills one can study entrepreneurship.

Benefits of Studying Entrepreneurship

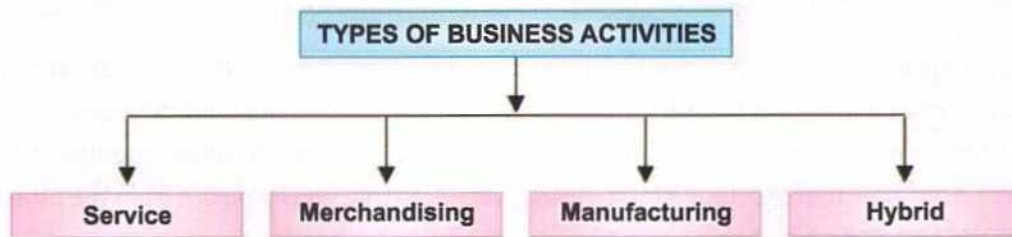
The benefits of studying entrepreneurship are:

- ✦ It helps to think about new business ideas.
- ✦ It helps to cultivate skills and knowledge for starting an enterprise.
- ✦ It develops business skills in areas such as finance, sales, marketing, management, and accounting.
- ✦ It helps in the development of other skills such as adaptability, effective communication, business discipline, and confidence.

TYPES OF BUSINESSES

What is the meaning of the term 'business'? Business is an area of work or an activity related to production, buying, and selling of goods or services. If you are thinking about becoming an entrepreneur, you should know about the different types of businesses.

Businesses can broadly be classified into four types.



SERVICE BUSINESS

A service business provides products which do not have a physical form or cannot be touched. Such business companies provide professional skills, expertise, advice, and other similar services. Some examples of a service business are—salons, repair shops, housekeeping agencies, schools, coaching institutes, sports academies, hotels and resorts, accounting firms, and law firms. From such businesses you are not buying any physical product, rather you are paying for different types of services.



Salon



Sports Academy



Accounting Firm



Law Firm

MERCHANDISING BUSINESS

Merchandising business is also known as 'buy and sell' or 'trading' business. A merchandising business firm buys goods or products at 'wholesale price' and sells the same at 'retail price'.



Wholesale price is the price charged for goods that are sold in bulk or large quantities to a businessman or a trader. In other words, it is the price, a businessman or trader pays for buying a large number of goods that he will sell in his shop.

Retail price is the price of goods or products when they are sold to customers for consumption, and not for resale. The shopkeeper makes his profit by pricing the goods to enable him to earn profits.

In this type of business activity, the businessman makes a profit by selling the products. Some examples of merchandising business are grocery stores, convenience stores, chemists, electronic stores, automobile dealers, and other resellers.

MANUFACTURING BUSINESS

A manufacturing business uses raw material, labour, and other production processes to manufacture goods. A manufacturing business buys raw material for making a new product. The goods that are manufactured are generally sold to wholesalers, who further sell them to retailers, who then sell them to the end users or consumers.



A cotton/woollen textile company uses cotton yarn/wool as raw material, machines, power, and labour to manufacture cotton/woollen fabric.



A mobile phone manufacturer uses circuit boards, electronic parts, LCD screens, and batteries as raw material to manufacture mobile phones.



A furniture manufacturer uses timber, skilled labour, machinery and tools, to create different designs of furniture.



HYBRID BUSINESS

A hybrid company does not belong to any one specific type of business, it is a mixed type of business.



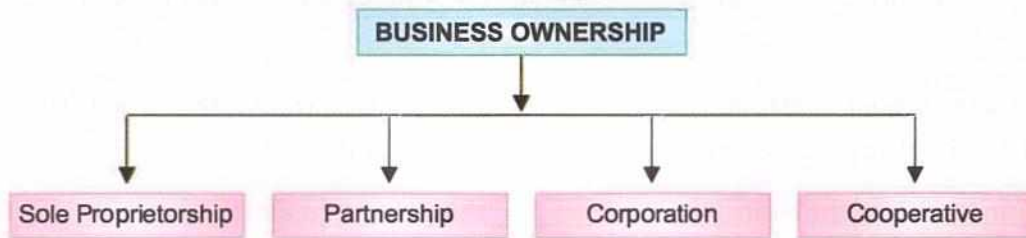
The best example is a restaurant. A restaurant uses ingredients for making a fine meal (manufacturing), sells bottled water or cold drinks (merchandising), and serves customer orders (service). All three types of business functions can be seen in a restaurant.



TYPES OF BUSINESS ORGANISATIONS IN OUR COMMUNITY

The first step as an entrepreneur is to decide the form of business you want to choose. Businesses may be organised in different forms. The form of business activity depends on the type of business ownership. Ownership means 'possessing something'. When you own a business, it is a big responsibility of how you organise and manage it. You are responsible for your business in every way. Being legally responsible for a business is termed as 'liability'. All forms of business ownership have liabilities.

Four main types of business organisations, based on ownership are as follows:



SOLE PROPRIETORSHIP

A sole proprietorship is a business owned by a single person. It is easy to set up and is the least costly among all forms of ownership. Sole proprietorship is usually adopted for small independent businesses. We can call it the one-man business organisation.

Starting and closing a sole proprietorship is simple and requires minimum costs. The owner keeps all the profits, however, he is solely liable for all the debts. Moreover, he has a limited capacity to raise capital. Thus, sole proprietorship is often considered as the most appropriate form during the early stages of a business.



Mr Gupta has a small grocery store. He is the single owner of this store. He owns, invests money, and enjoys the profits from his store.

For these reasons, sole proprietorships are often the most appropriate during the early stages of a business, where the owner has little capital/resources to work with but also has a few debts to pay.



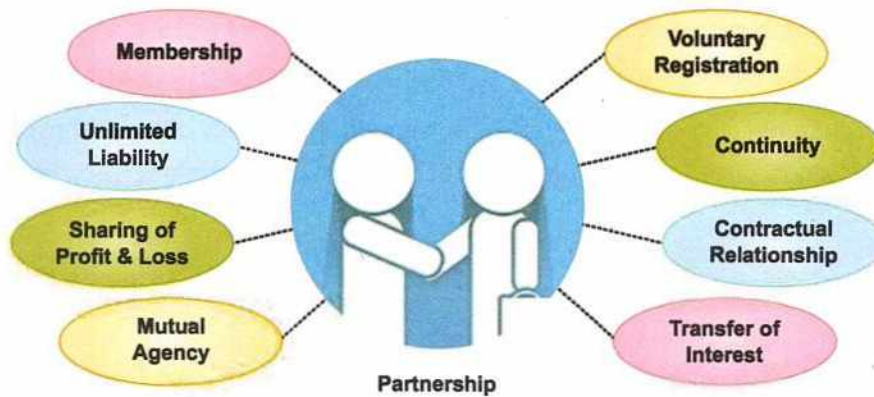
PARTNERSHIP

A partnership is a business owned by two or more persons who jointly invest money in the business. The partners divide (share) the profits of the business among themselves. They even bear the losses together. They discuss all business matters among themselves and take joint decisions. Both partners are legally responsible for the business. Due to the sharing of profits and the additional resources, this type of ownership is often expected to yield higher growth rates than a sole proprietorship.



Partnership also offers the opportunity for income splitting and tax saving. In partnership, it is easy to change the legal status of the business if such a need arises. However, the liability of the partners for the debts of the business is unlimited,

i.e., each partner is liable for the partnership's debts and the consequences of each other's actions. Also, there is always a risk of disagreements and friction among partners.



CORPORATION

A corporate structure is more complex than other business structures. Unlike the previous two business ownerships, a corporation is a business organisation that is considered a separate entity from its owners and pays its tax separately. The owners of the business are called 'shareholder'. They hold stock in a company and reap the benefits of the company's successes in the form of an increased value of stocks. The shareholders elect a board of directors who set the policy and vision for the corporation. The board of directors appoints corporate officers who run the day-to-day operations of the corporation.



Corporations attract investors because shareholders of a corporation have limited liability, i.e., creditors can only claim the assets of the corporation and not the personal assets of the stockholders for the settlement of the corporation's debts or liabilities. Shares of the ownership are transferable, so the corporation continues to exist even if the management changes. However, starting a corporation is costly. Moreover, corporations are highly regulated by laws and dissolving such a business involves a complicated legal process.



The Walt Disney company and Johnson and Johnson are among the five most successful corporations in the world. These companies have a strong financial history, provide products and services that benefit society, and have been able to survive over a long period of time.

The Walt Disney Company

Johnson & Johnson

COOPERATIVE

Cooperative is an enterprise or an organisation that is owned and managed jointly by those who are its members. It is democratically controlled and operated on a non-profit basis. The basic objective of such an organisation is to meet the economic, social, and cultural needs of its members. It should have a minimum of ten members, but there is no limit to the maximum number of members. They contribute capital to the organisation and reap the benefits. The liability of members is limited to the extent of their capital in the cooperative society. The managing committee is elected by the members to run the organisation.



A cooperative mainly aims at providing services in place of earning profits. They need to be registered with the Registrar of Cooperative Societies.

Formation of a cooperative society is easy. A cooperative society is a separate legal entity. Hence, the death, bankruptcy, retirement, etc., of the members do not affect the continuity and existence of a cooperative society. It is also exempted from income tax. Moreover, the government offers loans and financial assistance to cooperative societies.

On the other hand, it is quite difficult for a cooperative to maintain the secrecy of its business affairs because it has to report to the Registrar of Cooperative Societies. Lack of profit motive may breed inefficiency, fraud, and corruption in the management.



The best example of the cooperative form of business model is Amul. It has protected the interests of the milk-producing farmers who are its suppliers as well as its owners. Amul is the largest cooperative movement in India with 2.2 million milk producers. There are 38,000 crore successful business entities which supply products to over 40 countries and provide livelihood to crores of individual dairy farmers in Gujarat and the rest of India.



Another example is the Shri Mahila Griha Udyog Lijjat Papad. It is an Indian women's cooperative involved in the manufacturing of various fast-moving consumer goods. The organisation's main objective is the empowerment of women by providing them with employment opportunities. It started with a loan of mere ₹ 80, and now the cooperative has an annual sale of more than ₹ 301 crores (₹ 3.1 billion)!



The choice of the type and form of your business needs a lot of consideration. It involves assessing your financial resources, taking inbuilt risks, and considering your preparedness. It also depends on the purpose of the business and who you want to involve as business partners and as beneficiaries.



ACTIVITY ZONE

For Better Concept Clarity

Read the story and answer the questions that follow:

Sunita has a natural talent for dress-designing. After completing her Senior School Certificate Examination, she decided to start a boutique at home. She discussed with her parents and converted the guest room into a boutique. She took a small loan from the bank to start her business and purchased two designer sewing machines. She surveyed the stitching charges in the market for regular and designer clothes and decided the stitching charges for her boutique. She employed two girls, who had completed a course in tailoring and worked out the timings, salary, incentives, holidays, and leave structure for the two employees. She purchased dress material and other accessories from the local market. She gave an advertisement for her boutique in the local society magazine and informed all her friends. Within a few months, she had many clients. Her boutique became very popular. Soon she started putting up her stall at the nearby malls. Sunita became a successful entrepreneur at a very young age!

1. What type of business is Sunita running?
2. State the risks involved in Sunita's business.
3. What are the benefits of maintaining this particular type of business structure?



ASSESSMENT TIME

A. Multiple Choice Questions:

- is a person who takes a risk to produce goods and services in search of profit.
a. Entrepreneur b. Employee c. Police d. Bureaucrat
- What kind of business ownership is best described by these statements?
+ I am the only owner of my business.
+ I take all the risks of doing business.
+ I keep all the profits.
a. Sole Proprietorship b. Corporation c. Partnership d. Cooperative
- An entrepreneur
a. enforces government regulations b. takes risk to earn profits
c. sets the interest rates at banks d. manages financial investments
- A grocery store is an example of which type of business activity?
a. Service b. Merchandising c. Manufacturing d. Hybrid
- What is the advantage of a cooperative?
a. Income tax exemption b. Minimal government regulation
c. Short life span d. Single ownership

B. Fill in the Blanks:

- The basic objective of a is to meet the economic, social, and cultural needs of its members.
- A business is a mixed type of business.
- A business that provides products which do not have a physical form is called business.
- price is the price of goods or products when they are sold to customers for consumption, and not for resale.
- Merchandising business is also known as or business.

HINTS

- Trading Cooperative Hybrid Retail Service Buy and Sell

C. Answer the Following Questions:

- How will you define an entrepreneur?

Ans. An entrepreneur is a person who takes the initiative of starting a business, bears the risk of investing money, manages at all levels, and is responsible for its success or failure.

- What do you understand by the term 'business'?

Ans. Business is an area of work or an activity related to production, buying, and selling of goods or services.

- What are the four forms of business organisations based on ownership?

Ans. The four forms of business organisations based on ownership are—Sole Proprietorship, Partnership, Corporation, and Cooperative.

- In a business, what is the meaning of the term 'liability'?

Ans. All forms of business ownership have liabilities. Being legally responsible for a business is termed as 'liability'.

D. Answer in One or Two Sentences:

Identify the type of business ownership based on the following description:

1. It is a separate entity from its owners and may employ its owners. Owners have limited liability and pay separate tax for the business.
2. It is a business owned by two or more people who share the profits of the business among themselves and bear the losses together.

E. Answer the Following Questions:

1. What are the benefits of learning entrepreneurial skills?
2. Why is liability an important factor in any business?
3. Explain the differences between sole proprietorship and partnership.
4. What are some advantages of running a corporation form of business organisation?

F. Application Based Questions:

1. A group of 15 retired people in your neighbourhood wants to start an organisation to educate underprivileged children. Suggest them the type of organisation that they can start.
.....
.....

2. Surabhi wants to start her own boutique. She wants to choose an option that requires minimum investment and business regulations. Which business ownership option should she choose and why?
.....
.....



ACTIVITY ZONE

For Better Concept Clarity

1. Poster Making

Use pictures to prepare a poster on business activities found in:

- a. Cities
- b. Villages

2. Prepare a list of service businesses in your community.

GROUP DISCUSSION



Organise groups discussions in the class on the following topics:

- a. Various types of activities adopted by small businesses in a local community.
- b. Some ideas for a business based on '**Best out of Waste**', for example, composting. Discuss the step-by-step process to develop that idea into reality including the following points:
 - i. Costing of the product made out of waste
 - ii. Selling of items made from waste materials

Characteristics of Entrepreneurship

An **entrepreneur** is a person who undertakes a new business or venture with some potential for profit and involving a certain amount of risk. **Entrepreneurship** is the act of setting up a business and taking on financial risks with the goal of making profit.

Let us read about some famous entrepreneurs who have succeeded despite odds. They were successful because they had unique ideas and more importantly, they had the necessary talents and skills that made them legendary entrepreneurs. For example, Bill Gates, the founder of Microsoft, and the late Steve Jobs, the founder of Apple, were college dropouts but the key to their immense success was embedded in their innovative ideas and their ability to persist even during difficult times. Even Mark Zuckerberg, the founder of Facebook, as well as Larry Page and Sergey Brin of Google can be considered as truly great entrepreneurs. Can you guess what do all these legends have in common? They had the vision and the sense of mission that they were going to change the world with their hard work, perseverance, and sheer determination.

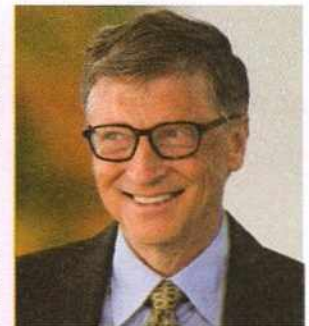


The Story of Bill Gates

We all know Bill Gates as one of the pioneers of modern computers. He is one of the richest and most influential people in the world today. Bill Gates along with his partner Paul Allen founded and built the world's largest software business, Microsoft, through technological innovation, keen business strategy, and aggressive business tactics.

It will be interesting to know a little more about his early years.

As a young boy, Bill was fond of board games, especially Monopoly and Risk. Bill developed an interest in computers in school and wrote his first computer program as a young teenager. While still in high school, Bill, along with some of his friends, wrote a payroll program for a company and a scheduling program for his school. Bill Gates and his friend Paul formed a venture called Traf-O-Data while still in high school. They created a computer program that helped to track traffic patterns in Seattle. He started his business from the garage in his house. Later, along with Paul Allen, he established Microsoft in 1975.



Bill Gates

ENTREPRENEURSHIP DEVELOPMENT

What do you do to perform well in school or to excel in examinations? You join coaching classes or institutes to score well in studies. In addition to academic coaching, many students join English communication courses and personality grooming institutes. The aim is to develop skills to enhance one's personality and be successful in life. In the same way, to develop and improve entrepreneurial abilities, an individual requires specific training and classroom programmes.

Thus, we can say that **entrepreneurship development** refers to inculcation, development, and polishing of entrepreneurial skills in a person to enable him to establish and successfully run an enterprise.



All successful entrepreneurs like Bill Gates (Microsoft), Warren Buffett (Hathaway), Gordon Moore (Intel), Steve Jobs (Apple Computers), GD Birla, and Jamsetji Tata went through the process of enhancing their skills through early business opportunities and later by sharpening their business skills, understanding the market needs and capitalising on them.



GD Birla

Let's Know More

Every big business has to start somewhere. You will be surprised to know that some of the very successful global businesses began from garage! Find out the names of at least six big business companies in the world that started from garages and rose to be multi-million (or billion) dollar industries.

STAGES IN ENTREPRENEURSHIP DEVELOPMENT PROCESS

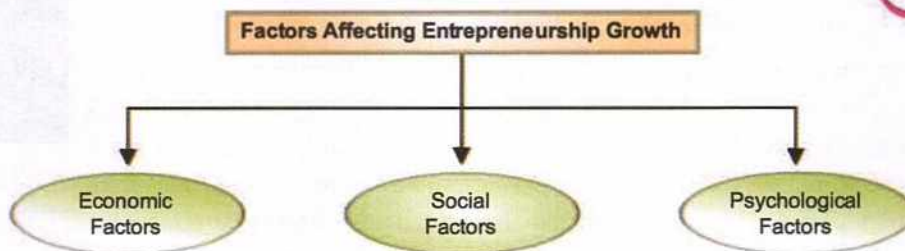
How does an entrepreneur go from the beginning stages of an idea to the construction of something real, functioning, and beneficial? An entrepreneur must find, evaluate, and develop an opportunity by overcoming the challenges or obstructions that come in the way of starting new business ventures.

The entrepreneurship development process has five main stages:

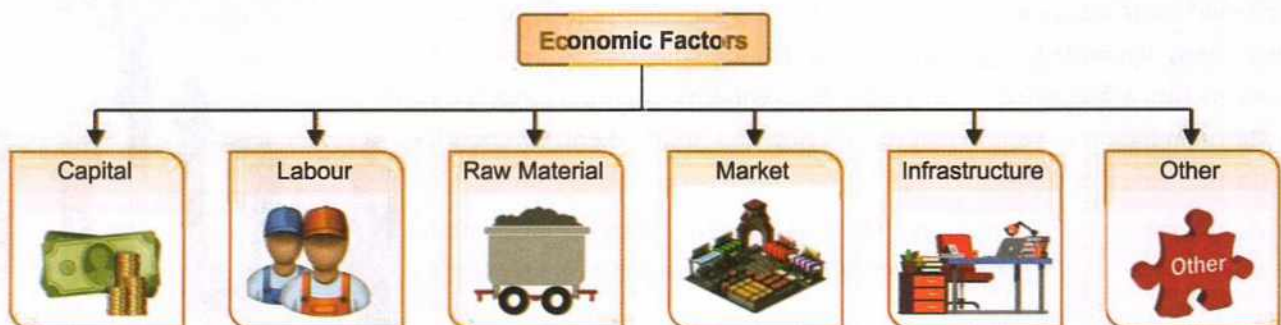


FACTORS AFFECTING ENTREPRENEURSHIP GROWTH

Entrepreneurial growth can be seen in areas where these following factors are present.



Economic Factors: Economic environment has direct and immediate influence on entrepreneurship. People often think about entrepreneurship when jobs are not easily available or because there is an opportunity. The economic factors that affect the growth of entrepreneurship are:

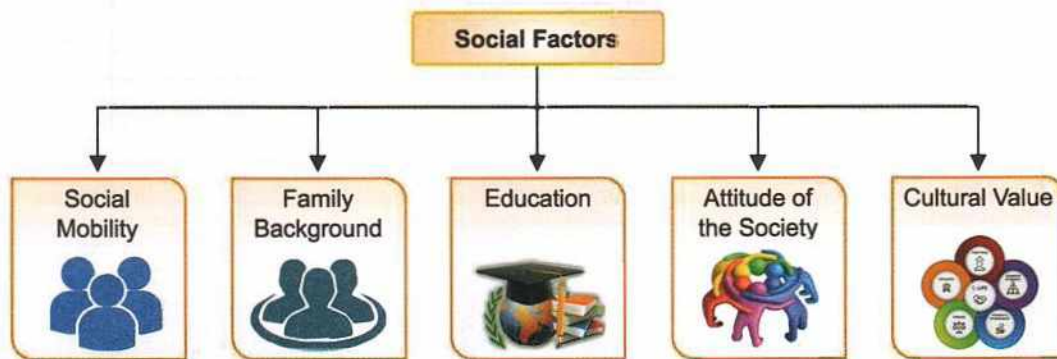


Know the Fact

The Government of India has many schemes to promote new ideas and support entrepreneurs. 'Startup India' is a government campaign aimed at promoting bank financing for startup ventures to encourage entrepreneurship and startups, which will contribute to the economy of the country.

- ✦ **Capital:** Capital is one of the most important factors for the establishment of an enterprise. An idea remains an idea without capital backing. Entrepreneurship activity becomes easier when there is availability of funds for investment.
- ✦ **Labour:** Easy availability of the right type of workers helps in the growth of entrepreneurship. It is the quality rather than quantity of labour that influences the emergence and growth of entrepreneurship.
- ✦ **Raw Material:** It is one of the basic ingredients required for production. Without sufficient supply of raw material, no industry can be established or function properly.
- ✦ **Market:** Market comprises potential customers as well as competition. Knowledge of customers' needs and competitors' offerings help you to create a product that distinguishes you from the competition and satisfy customers' needs.
- ✦ **Infrastructure:** Well developed transportation facilities help to enlarge the market and expand the horizons of business. For example, the establishment of post and telegraph system and construction of roads and highways in India considerably helped entrepreneurial activities in the 1850s.
- ✦ **Other Factors:** Other factors, such as institutions, government policies, business schools, and libraries also make valuable contributions towards promoting and sustaining entrepreneurship in an economy. They also act as various forums for communication and joint action.

Social Factors: Social factors strongly affect the entrepreneurial behaviour of people. The social environment, in which people grow, shapes their basic beliefs, values, and norms are as follows:



- ✦ **Social Mobility:** The term refers to the freedom to move from one caste or socio-economic strata to another. There are certain cultural practices and values in every society which influence the decisions of individuals. Dominance of certain ethnic groups in entrepreneurship is a global phenomenon.



Example

There are some traditional business communities in India such as the Parsis, Marwaris, Khatri, Bhatias, Jains, Bohras, Chettiars, Vaishyas, and Baniyas. In these communities, business is more or less hereditary.

- ✦ **Family Background:** Background of a family business also influences entrepreneurship. Youngsters who belong to business families often join their family business. They learn business skills from their elders. They often evolve their business according to the changing culture and take it to greater heights.



Example

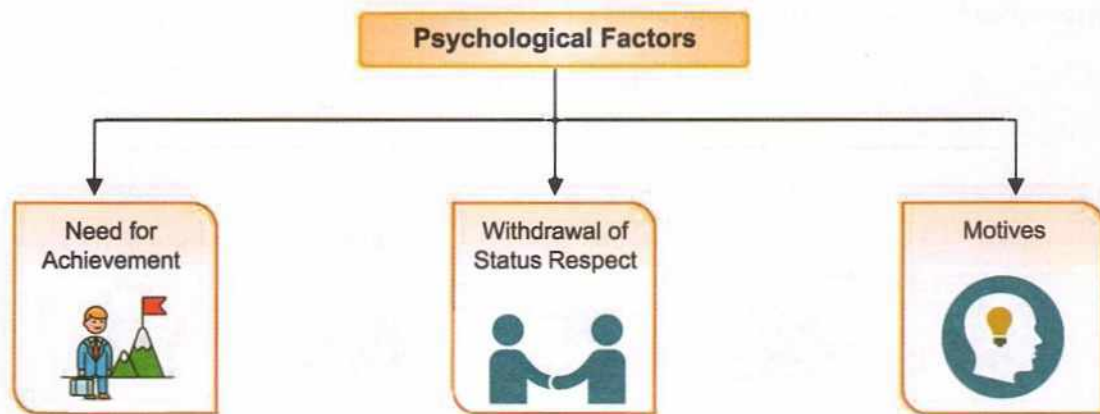
TATA, Godrej, Ambani, Hinduja, Birla and Bajaj are some of the well-known business families in India.

- ✦ **Education:** Education enables one to understand the outside world and equips him or her with the basic knowledge and skills to stand on their feet. In any society, education plays an important role in inculcating entrepreneurial skills.
- ✦ **Attitude of the Society:** Certain societies are more progressive and encourage innovations and novel ideas of earning a livelihood and encourage young entrepreneurs. Some others do not encourage changes in the established way of life. In such circumstances, entrepreneurship cannot grow.
- ✦ **Cultural Value:** Some socio-cultural groups or business communities are more money-oriented than others. Here, entrepreneurship would be encouraged and praised, and wealth accumulation as a way of life would be appreciated. However, in some other socio-cultural groups, people are easily satisfied with what they have. People from such sections of society do not strive for economic gains and therefore, lack the motivation to start up a new venture.



Example Many families where most of the members have been into government jobs, do not look beyond these jobs in spite of the financial advantages of private/corporate jobs or business. They value the job security of government jobs.

Psychological Factors: Many entrepreneurial theorists have developed theories of entrepreneurship that are based on psychological factors. These factors are as follows:



- ✦ **Need for Achievement:** 'Need for Achievement' refers to the innate drive to aim high and achieve success. The presence of this factor makes individuals highly motivated to overcome obstacles, to be successful, and to excel in their chosen fields. This is a very important characteristic that promotes entrepreneurship among individuals.
- ✦ **Withdrawal of Status Respect:** Sometimes social groups experience a loss of status leading to changes in entrepreneurial behavior. People who are displaced from their native place due to conflicts or political disturbances, and have to migrate to new places may not continue to remain entrepreneurs and take up paid jobs to earn a living.



Example Many Kashmiri Pandit families were forced to leave the Kashmir valley because of communal riots. They left their flourishing businesses in Kashmir. Many of them could not continue as entrepreneurs once they resettled in Delhi and other parts of India.

- ✦ **Motives:** Motives or goals of the entrepreneur play an important role in the development of entrepreneurship. Besides wealth, entrepreneurs may also seek power, prestige, security, and service to society.

CHARACTERISTICS OF ENTREPRENEURS

There is no age limit for entrepreneurs; they can be youngsters in their teens or mature people in their fifties. They may be male or female, formally educated or self-educated. They can be from any country or background. But all entrepreneurs have some characteristics in common. They recognise business opportunities more quickly than other people. They can see potential business opportunities in problems and are not afraid to take risks and bold decisions, and they work hard. They can even foresee risks. They are problem-solvers who have excellent communication skills. They inspire others to follow them.

As a young boy, Bill Gates had a dream to open a company. Many people have dreams. How was Bill Gates different from the others?

Bill Gates' success came from a combination of factors. He was an 'idea man' who had a business idea which was new to the times. His hard work, intelligence, business sense, and right timing contributed to his success. Bill constantly challenged his employees to work harder and innovate, but he also worked as hard as or even harder than the people who worked for him. Bill used to stay up all night working. Once, his secretary came in on a Monday morning to find him sleeping on the floor. She thought he was unconscious, but he had been up at the weekend and was taking a quick catnap.



Gates was not afraid to take risks. He took a risk when he dropped out of Harvard to start his own company. He also took a calculated risk when he changed Microsoft's operating system from MS-DOS to Windows. He had confidence in himself and his product. All these qualities made him one of the most successful entrepreneurs in the world. Besides being a brilliant tech guy, Bill is also a smart businessman.

Although every entrepreneur has a unique story, there are a few qualities that are common in all of them, that have helped them to achieve success. They all trust themselves, work hard, remain disciplined and focused. Many of the skills shared by successful entrepreneurs can be developed over a period of time, through practice and experience.

Some of the key factors to become a successful entrepreneur are:

Willingness to Take Action: This is the most important factor required by entrepreneurs. Action is something that can lead you to success. Without action, you cannot expect to become a successful entrepreneur.



Aptitude: Aptitudes are natural talents or inclinations for certain types of activities. For example, if you enjoy working on art projects more than solving math problems, then you may have an aptitude for creativity. In this case, you will have a good chance of success at an art related business, as you will be working towards your passion.

Similarly, entrepreneurs have the natural virtue of creativity, determination, risk tolerance, and so on. They apply their aptitudes to their business ventures. Often their abilities have helped them to excel. Both Bill Gates and Steve Jobs had a special aptitude for computers from an early age, and they ventured their expertise into that field.

Some aptitudes that could be useful in an entrepreneurial venture are as follows:

Artistic: Entrepreneurs can use their artistic talents in different ways. For example, they can be singers, musicians, producers of movies or television shows, video game creators, or fashion designers.

Perceptive: Some people may be more perceptive than others when it comes to understanding other people's needs, intentions, ideas, or emotions. Perceptive entrepreneurs can define the real problem that people are having in satisfying their needs and wants. For example, counsellors.

Logical: Entrepreneurs with this aptitude have the ability to quickly apply reason to solve consumer and business problems. These people excel as Risk and Business Analysts.

Mechanical: People with this aptitude quickly understand how machines work and how they could be improved. Such people tend to succeed in businesses like machinery repair and design.

Spatial: Entrepreneurs with this aptitude are generally architects and interior designers. They can use space in an attractive and economical manner.

Intellectual: People with this aptitude have a desire to seek knowledge, to plan ahead, and to come up with original ideas.



THINKING ZONE

What is your aptitude or talent?

Perhaps you can draw cartoons, play/sing or write exceptionally well, do mathematical calculations with ease, may cook well, etc. These talents just seem to be a part of who you are. With practice, hard work, and education, you can turn any talent into an entrepreneurial enterprise. Think about your special aptitude or talent which can turn into a business venture.

Vision: Entrepreneurs can visualise their ambition and continuously work to achieve it. They make vision statements, take business decisions with a goal in mind, and do not get distracted. The vision statements help entrepreneurs or employees to remain focused on the business goals and encourage them to find innovative ways of increasing productivity and achieving company goals.

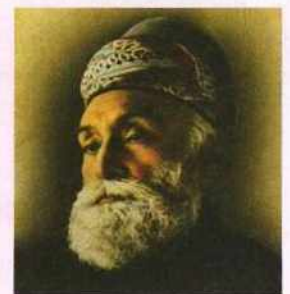


Jamsetji Tata—A Great Visionary

Jamsetji Nusserwanji Tata was an Indian industrialist and entrepreneur who founded the Tata Group, India's biggest group of industries. The success of Tata Group of industries is the result of his vision and mission. He is regarded as the 'Father of Indian Industry'.

He was an adventurous and ambitious young man, who dreamt of building an iron and steel company. He was not only a patriot and humanist, but also had unconventional managerial skills, an intuitive business sense, and a sharp mind. He soon became a pioneering entrepreneur, and his ideas laid the foundation of steel and power industries in India. The company which was founded as a trading concern in 1868 presently has over 100 operating companies including Tata Steel, Tata Motors, Tata Consultancy Services (TCS), Tata Power, and Tata Chemicals.

He also paved the way for the introduction of technical education, thereby bringing India to the ranks of industrialised nations. He donated land for a research institute in Bangalore (now Bengaluru) in 1898. He drew up a blueprint for the proposed institute with the support of powerful people like Lord Curzon and Swami Vivekananda to turn it into a reality.



Jamsetji Tata



Example

Risk Tolerance: Risk tolerance is the degree to which an individual can comfortably accept taking chances. Entrepreneurs need to have a high tolerance for risks. They take calculated risks. If they fail, entrepreneurs are likely to try again.



Confidence: People who have confidence, believe in their own abilities. They are sure of themselves, and therefore, it is easier for others to believe in them. Even if they fail, they know they will succeed the next time. This is a key characteristic of entrepreneurs.

Creativity: Creativity is the ability to create things. Creativity can be in the form of an invention, an innovation, or a marketing or problem-solving strategy. The successful entrepreneur is an 'idea' person. Entrepreneurs see opportunities everywhere. They find innovative ways of increasing their productivity and achieving company goals.

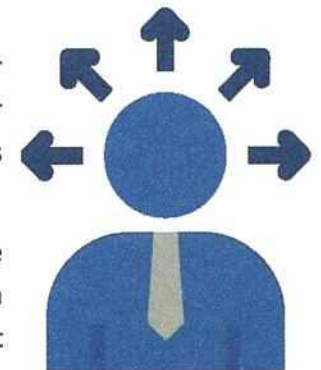


Perseverance: Have you ever been so determined to succeed at something that you just kept trying until you got it right? That's a sign of perseverance. Perseverance is the determination that pushes the entrepreneur to keep going and keep trying. Creating and running a business is hard work. It often means long hours, disappointments, and setbacks.



Initiative: Initiative is the readiness and willingness to start a new enterprise. When an entrepreneur sees an opportunity, he takes an appropriate action. Entrepreneurs are self-motivated and willing to take on the leadership role and make themselves personally responsible for the success or failure of a decision.

Integrity: Integrity is the personal commitment to keep your promises, to do what you say you are going to do. An entrepreneur with integrity creates confidence in customers and investors, and is more successful and respected than others.



Optimistic and Future-oriented: Optimism means to have a positive outlook and not to give up in difficult situations. Optimism helps in bouncing back after a failure. For an entrepreneur, it is an excellent personal quality. For entrepreneurs, such a thought process leads to novel ideas for new products, services, or businesses having a greater chance of success.



Flexible and Willing to Change Quickly: Flexibility is the quality of changing oneself with new conditions. Entrepreneurs have an open mind and are always ready to adopt new things in the market and economy. They are prepared to change, to get the maximum benefits out of the existing opportunities and threats in the business environment. They always approach things with an open mind and are willing to change course, if they need to.

ROLE OF ENTREPRENEURSHIP

What is the importance of entrepreneurship in society?

Entrepreneurship is beneficial for society in three ways-economic, psychological, and social.

ECONOMIC BENEFITS

- ✦ Generates employment
- ✦ Utilises resources (e.g. human resources)
- ✦ Regional development
- ✦ Improves the economy of a country

PSYCHOLOGICAL BENEFITS

- ✦ Instils a drive for achievement
- ✦ Develops confidence
- ✦ Increases motivation

SOCIAL BENEFITS

- ✦ Helps reduce unemployment
- ✦ Improves socio-economic status
- ✦ Satisfies consumer need

REWARDS OF ENTREPRENEURSHIP

- ✦ Being the boss
- ✦ Having the opportunity to be creative
- ✦ You can set your own schedule
- ✦ You become a business leader
- ✦ Doing what you enjoy
- ✦ Building an enterprise
- ✦ You do what you believe in
- ✦ There is excitement at work

Entrepreneurs are a national treasure. They create wealth, jobs, opportunities, and bring prosperity to the country. They are the most significant people in a market economy, and there is always the need for more in any society. As an entrepreneur, your success is vital to the success and prosperity of many around you.



ACTIVITY ZONE

For Better Concept Clarity

Divide the class into four groups and ask each group to think about a novel business idea keeping the following points in mind:

- What is the new business about?
- What is the utility of your product and who would want to buy it (i.e., the target customers)?
- Why do you think your business idea will be successful in the market?
- If there is a competitor in the market is this product better than the existing product?
- Any other feature of the new product/business.

Ask each group to give a presentation before the class.

Recap



- ✦ An entrepreneur is a person who takes the initiative of starting a business, bears the risk of investing money, manages at all levels, and is responsible for its success or failure.
- ✦ Businesses can broadly be classified into four types - Service, Merchandising, Manufacturing, and Hybrid.
- ✦ Four main types of business organisations based on ownership are- Sole Proprietorship, Partnership, Corporation, and Cooperative.
- ✦ The entrepreneurship development process has five main stages- Identification and evaluation of the opportunity, Development of the business plan, Determination of the required resources, Management of the resulting enterprise, Change/adapt with time.
- ✦ Entrepreneurship is beneficial for society in three ways - Economic, Psychological, and Social.

A. Multiple Choice Questions:

- Entrepreneurship development is
 - An institution
 - A process
 - A course
 - A venture
- The first phase of the entrepreneurship development is
 - Management of the resulting enterprise
 - Development of the business plan
 - Identification and evaluation of the opportunity
 - Determination of the required resources
- is the readiness and willingness to start a new enterprise.
 - Business
 - Initiative
 - Success
 - Vision
- Aptitudes are
 - Learnt skills
 - Professional qualifications
 - Memory skills
 - Natural talents or inclinations
- Entrepreneurship helps in generating
 - Confidence
 - Employment opportunities
 - Regional development
 - All of these

B. Fill in the Blanks:

- is the determination that pushes the entrepreneur to keep going, and keep trying.
- One of the psychological benefits of entrepreneurship is that it develops
- is the funds for investment to start a business venture.
- can be in the form of an invention, an innovation, as marketing, or problem-solving strategy.
- One of the most essential characteristics of entrepreneurs is their willingness to take

HINTS

- Capital
 Confidence
 Perseverance
 Action
 Creativity

C. Answer the Following Questions:

- How will you define entrepreneurship?

Ans. Entrepreneurship is the act of setting up a business and taking on financial risks in the hope of making a profit.

- What is entrepreneurship development?

Ans. Entrepreneurship development refers to inculcation, development, and polishing of entrepreneurial skills in a person to enable him to establish and successfully run an enterprise.

- Define 'Need for Achievement'.

Ans. Need for achievement refers to an innate drive to aim high and achieve success. The presence of this factor makes individuals highly motivated to overcome obstacles to be successful and to excel in their chosen field.

- What do you understand by the term 'risk tolerance'?

Ans. Risk tolerance is the degree to which an individual can comfortably accept taking chances.

5. Mention the three ways which make entrepreneurship beneficial for society.

Ans. Entrepreneurship is beneficial for society in three ways—economically, psychologically, and socially.

D. Answer in One or Two Sentences:

1. Define Integrity.
2. Make a list of some aptitudes useful in entrepreneurial ventures.
3. What are the social benefits of entrepreneurship to the society?
4. How is optimism an excellent personal quality for entrepreneurs?
5. Explain with the help of an example that family background affects the entrepreneurial behaviour of people.

E. Answer the Following Questions:

1. Mention any five characteristics that you possess that can help you to become a successful entrepreneur.
2. Think of a possible venture that you could start. Also, explain the four main phases of entrepreneur development process for your venture.
3. Do you think it is essential to have big money and place to start a business? Give reasons for your answer.
4. 'Entrepreneurs are a national treasure. They create wealth, jobs, opportunities, and prosperity in the country'. Write your opinion on this statement.

F. Application Based Questions:

1. Amit is good at painting. What possible careers will you suggest him to pursue?
.....
.....
2. Sunaina runs an NGO for under-privileged children. Since it is a non-profitable organisation, what factors do you think motivate her to work hard?
.....
.....



ACTIVITY ZONE

For Better Concept Clarity

- ✦ Prepare an interesting presentation on the topic, 'Factors Affecting Entrepreneurship Growth'.
- ✦ Make a poster in Word on the topic, 'The core skills of a successful entrepreneur'.
(Apply formatting features to make the poster attractive).

GROUP DISCUSSION

Organise group discussions in the class on the topic, 'Entrepreneurship vs Salaried jobs'.



Environment Protection and Conservation

Life on Earth makes it a unique planet in comparison to other planets. It is home to millions of species of plants and animals. It is possible because of our environment as it involves remarkable conditions that make life possible on Earth.

ENVIRONMENT

The word environment is derived from the French word *environ* which means 'surroundings'. Our environment comprises our surroundings—the air we breathe, the water that covers the earth's surface, the plants and animals around us, and much more.

The environment can be categorised into two types:

1. Natural Environment
2. Human-made Environment

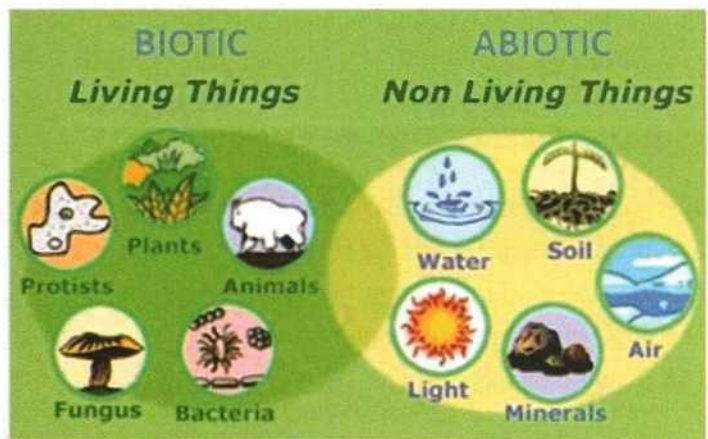
NATURAL ENVIRONMENT

It includes all living and non-living things occurring naturally on Earth, for example, plants, animals, birds, insects, land, mountains, water bodies, air, sun, rain, minerals, etc. The natural environment is subdivided into two—biotic and abiotic components.

Biotic Components: These components consist of all the living organisms within an ecosystem, for example, plants, animals, birds, insects, fungi, and other living organisms.

Abiotic Components: These components comprise all the non-living things in an ecosystem, for example, water, air, soil, sunlight, and minerals.

Our environment provides the platform for the interaction between these two factors. The biotic factors depend on the abiotic factors to fulfil their requirements to grow and survive.



Biotic and Abiotic Components

HUMAN-MADE ENVIRONMENT

The human-made environment includes human activities and their interaction with the abiotic components. It comprises the structures made by humans, such as houses, buildings, parks, bridges, roads, markets, factories, dams, vehicles, and so on. In addition to these, the human-made environment also includes all the social institutions and organisations which we see in our society. Thus, human-made environment consists of physical, biological, social, and cultural factors. Cities are the best example of human-made environment.

The natural and human-made components of the environment depend on each other and interact with each other as a natural process. No living organism can survive alone. The natural environment provides all the resources for the development, growth, and survival of human beings.

ECOSYSTEM

Consider a small pond near your home. You may find various types of living things, from micro-organisms to insects and plants in it. These may depend on non-living components, such as water, sunlight, air, and the nutrients in the water for their survival. This pond is an example of ecosystem. A few more examples are forests, deserts, and grasslands.

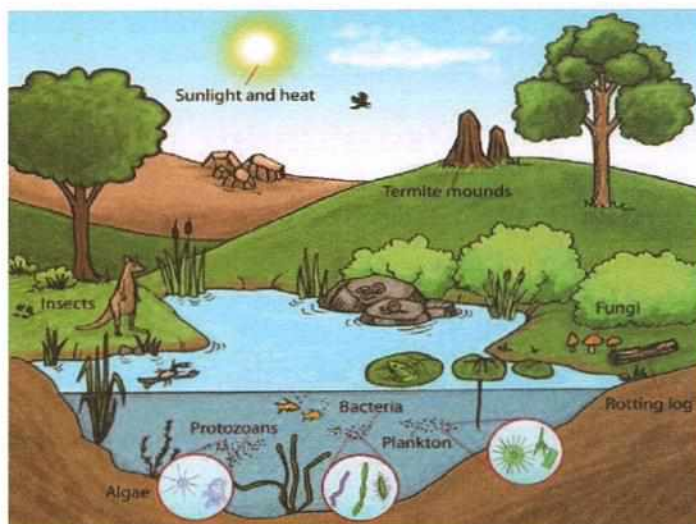
An **ecosystem** is a community of living and non-living components which are interdependent on each other. An ecosystem is formed when living things (plants, animals, and organisms) in an area interact with each other as well as with the non-living components (weather, sun, soil, climate, and atmosphere) that surround the living things.

In an ecosystem, each organism has its role to play. Each ecosystem is unique, but all ecosystems consist of three primary components:

Autotrophs: They are the producers of energy. Plants make up the majority of the autotrophs in an ecosystem as they convert energy from the Sun or other sources into food.

Heterotrophs: They are the consumers of energy. These are organisms which depend directly or indirectly upon the autotrophs for their food. They are also known as consumers. Most of the heterotrophs are animals.

Non-living matter: It is soil, sediments, leaf litter, and other organic matter found on the ground or at the bottom of an aquatic system.



An Ecosystem

BASIC NEEDS OF LIVING ORGANISMS

Every living organism on Earth needs some basic things to survive. The amount and type of these needs vary from organism to organism. For example, water is the basic need for survival, but the amount of water a frog needs to survive is less than the amount of water needed by an elephant. Similarly, indoor plants require almost minimal amount of sunlight as compared to the outdoor plants.

Five basic needs that all living things require to survive:

Sunlight: The sunlight is an essential requirement for all living organisms because it is the main source of energy on Earth. It provides heat and light to all living things. Life would not be possible on Earth without the warmth of the sun.

Water: It is considered to be the most important necessity of life. Water provides habitat to many living organisms. It helps to regulate metabolism in organisms and assists the absorption of food in the intestine. Water also helps in maintaining body heat.

Air: Air is made up of several gases, but the two most important gases are - oxygen and carbon dioxide. Without oxygen, animals will die, and without carbon dioxide, plants cannot survive.

Food (Nutrients): Food plays a vital role in overall development of all



living beings. The food we eat contains nutrients that are required by the body to grow, move, work, reproduce, play, think, and learn. Moreover, it helps in maintaining proper health by protecting us from diseases.

A habitat with the right temperature: Imagine, if you have to live in a place which is either too cold or too hot. It would be difficult or maybe even impossible to survive! In the same way, every living organism needs an ideal temperature to survive, whether on land or in water.

RELATIONSHIP BETWEEN MAN AND ENVIRONMENT

The interrelation between the man and the environment is well established from the earliest times to the present day. However, the relationship has varied during different stages of the evolution of humans and their society. In this relationship, the environment influences the life of human beings. Humans adapt to their changing environment, but sometimes they also modify the natural environment according to their requirements.

The early humans lived in the lap of nature. Their survival depended on their natural environment, so they adapted to their environment. Their food, shelter, and clothing, all came from their natural habitat. Therefore, they did not harm their natural environment but lived in harmony with nature and devised various ways of preserving it. In fact, nature was worshipped in different forms as a way to honour the natural environment.

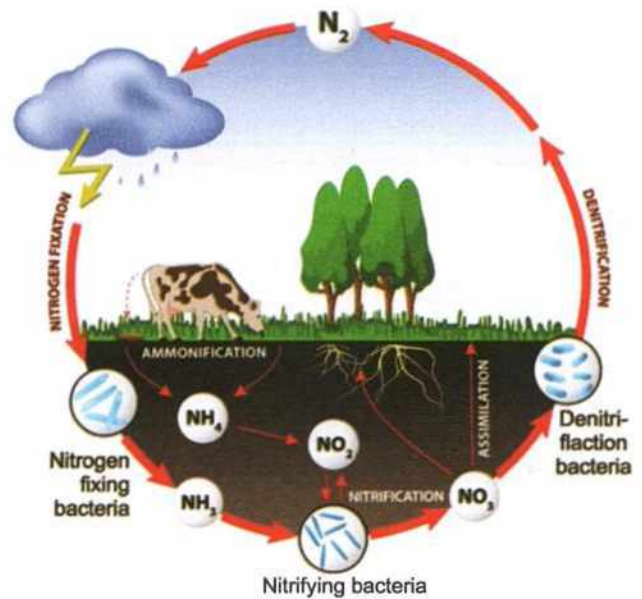
EFFECTS OF HUMAN ACTIVITIES ON ENVIRONMENT

With the advancement in technology, the relationship between man and environment also changed. Humans are the only living organisms capable of modifying the environment according to their needs. Gradually, humans explored and exploited the natural resources for the development and the comforts of human society. To fulfill the needs of increasing population, human beings have undertaken certain activities like rapid industrialisation, unplanned urbanisation, deforestation, and overexploitation of natural resources. These activities have significantly contributed to environmental degradation and are disrupting the environmental stability and ecological balance.

Environmental degradation is now a global problem. More than 1.4 million people have died as a result of natural disasters over the past fifty years. Why are the natural disasters on the rise? Are we tampering too much with nature?



Effects of Human Activities on Environment



Relationship between Environment and Living Things

Human-made disasters are also on the rise. Human beings, supposedly the most intelligent creatures on Earth, by the misuse of science and technology, are probably on the verge of threatening the very existence of life on Earth.

Some of the natural events that cause environmental degradation are volcanic eruption, forest fires, earthquakes, floods, etc. Let us read about some human activities which are harming the natural environment and causing ecological imbalance.



ACTIVITY ZONE

For Better Concept Clarity

Ask your grandparents/parents how their hometown looked 15 to 20 years ago. What changes have taken place over the years? Have the changes affected the natural environment of the city?

Write down your understanding from the discussion.

ECOLOGICAL IMBALANCE

Anything that attempts to alter the balance of the ecosystem can threaten the existence of that ecosystem. Some of the threats can be resolved if the natural conditions are restored. However, others can harm its life forms and destroy ecosystems. Various factors cause ecological imbalance. Let us understand some of the important factors.



Mining

OVEREXPLOITATION OF NATURAL RESOURCES

Overexploitation refers to the overuse of natural resources to such an extent that it almost reaches a stage of exhaustion. We can see this phenomenon in the exploitation of natural vegetation and forests, medicinal plants, grazing pastures, wildlife, fish stocks, fossil fuels, and water aquifers. Large-scale mining of minerals, oil drilling, and unplanned urbanisation is leading to the loss of forest lands and contributing to the destruction of the ecosystem.

HABITAT DESTRUCTION

Clearing of forests to obtain timber and provide space for either agricultural zones or urban development is called **deforestation**. A majority of animal and plant species live in the forests, and many of them have become extinct or endangered because of the loss of their homes due to deforestation. Economic activities such as logging, mining, farming, and construction often involve clearing the cover of the natural vegetation of places. This tampering with one factor of the ecosystem can have a ripple effect on many other factors in any ecosystem.



Deforestation



Example

The soil that provides nutrients for vegetation in the ecosystems is greatly affected by deforestation. Clearing a piece of the forest for timber can expose the upper layers of the soil to the wind, water, and heat of the Sun. In the heavily deforested areas, soil erosion and nutrient run-off are common after a rainfall, thereby reducing the fertility of the soil.

ENVIRONMENTAL POLLUTION

Water, land, and air play a crucial role in the health of our ecosystems. Any kind of pollution releases harmful chemicals (pollutants) into the environment. Poisonous gases released into the environment from vehicular emissions and factory chimneys cause air pollution and respiratory diseases. Dumping of industrial and city sewage wastes into lakes, rivers, and seas are causing water pollution. Plastics are one of the most common and persistent pollutants in the ocean waters and beaches worldwide, which is a hazard for marine and human life.

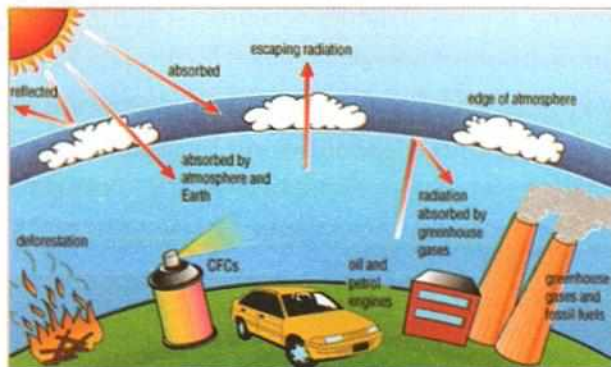


Environmental Pollution

Hazardous chemicals are being used in modern agriculture to control pests and weeds. These toxic chemicals are accumulating in the environment and causing a threat of diseases like cancer. They also kill beneficial microbes and insects, birds, butterflies, and fishes. The extinction of different species affect our biodiversity and ecosystems.

GREENHOUSE GAS EMISSION

Gases that trap the heat in the atmosphere are called **greenhouse gases**. The primary greenhouse gases that humans emit directly in significant quantities in the earth's atmosphere are carbon dioxide, methane, nitrogen, nitrous oxide, and CFCs. These gases cause global warming of the environment. The rising temperatures could melt the polar ice caps, submerging much of low-lying land masses and many coastal cities (like London, New York, Mumbai, Kolkata, and Chennai) under sea water. According to scientists, if the emission of CFCs is not reduced by 2030, there will be irreversible global warming and large-scale depletion of the ozone layer.



Causes of Environmental Pollution

The ozone layer helps to keep out harmful ultraviolet (UV) radiations that cause sunburn to human skin and damage to plants. The most common form of UV radiation is sunlight which produces three main types of UV rays: UVA, UVB, and UVC. The UVA rays help generate vitamin D for living things. UVB and UVC are destructive and can cause DNA and cell damage to plants and animals. The depletion of ozone layer exposes living things to UVB and UVC rays. The harmful effects of these rays can affect ecosystems and humans and can cause the extinction of certain species.

NUCLEAR WEAPONS

A single thermonuclear weapon can have a million times more destructive power than the largest conventional weapon. Several countries possess nuclear bombs. If a major nuclear conflict happens, extreme climatic and global environmental changes would occur with significant health implications and would destroy life on Earth.

RADIOACTIVE WASTES

Nuclear wastes generated in nuclear reactors are a real threat to life on Earth. Exposure to radioactive elements can have severe health effects on human beings, which can result in irreparable DNA damage leading to a life-threatening condition, tumours, cancers, etc. Radioactive substances can also contaminate soil, water, air, and infuse harmful substances in the environment, thereby affecting vegetation, wildlife, and marine life.

Let's Search For

What are some common respiratory diseases caused by air pollution?

Let's Know More

Earth Day is celebrated worldwide every year on April 22 to support environmental protection. It was proposed by Gaylord Anton Nelson (an American politician and environmentalist). Earth Day was first celebrated in 1970.



Let's Know More

CFC is an abbreviation for 'chlorofluorocarbon'. CFCs are commonly used in refrigerators and air conditioners. They cause serious damage to the ozone layer as they attack and destroy ozone molecules.

Let's Search For

Collect information on at least three major nuclear disasters. Find out the reasons for the occurrence of these disasters and their impact on living things.

BIOTECHNOLOGICAL MISUSE

The production of disease-producing bacteria, viruses, or fungi for biological warfare is another threat to mankind and environment. These super-powered pathogens, when released, will disseminate through air or water and can cause catastrophic epidemics to man and animal life.

CONSERVATION OF NATURAL RESOURCES

At the beginning of human civilisation, there was an abundance of natural resources on Earth. Since everything was available in abundance, humans did not think about their depletion or exhaustion. However, with increasing industrialisation and urbanisation, the consumption of these resources also increased. Moreover, as the population is continuously growing, the use of natural resources is also increasing. If we keep exploiting nature, there will be no more resources left for future generations. The greed for possessing more of everything and a careless attitude towards nature has now brought us to a stage where conservation has become the need of the time.



Conservation of Natural Resources



ACTIVITY ZONE

Think About This

- ✦ Today you do not get natural pure water to drink. You have to carry your own water bottle. Imagine the scenario where you are extremely thirsty, and you have no water left to drink. What would you do?
- ✦ Deforestation and mindless cutting down of trees are reducing the sources of oxygen supply on Earth. Will we carry oxygen cylinders on our back in the future?
- ✦ Fossil fuels will get exhausted. There will be no diesel or petrol left. Your cars and other vehicles will become useless. Think, how will you manage without these conveyances?

WAYS OF CONSERVING NATURAL RESOURCES

There are several ways of conserving natural resources. Some of the methods are-to use renewable resources judiciously, reduce the consumption of natural resources, do not harm the natural environment, and educate communities to take care of the environment.

Tips to conserve natural resources

We can contribute towards the conservation of natural resources by adopting the three Rs in our daily life. The three Rs are:

- ✦ **Reduce:** Buy only the essential things and reduce the consumption of natural resources. This is the best way to conserve these resources. This way, we can reduce the amount of waste in the environment.
- ✦ **Recycle:** Process old items and create something new. We can recycle some of the things that we use every day like paper bags, soda cans, milk cartons, plastic bottles, newspapers, cardboard, sheets of paper, magazines, etc.
- ✦ **Reuse:** Use the same object over and over again before recycling, composting, or throwing it away. Reusing things is a great way to extend the life of things, which in turn saves valuable natural resources.



Some tips to reuse things are:

- ✦ Write on both sides of the paper.
- ✦ Drink from glass or reusable stainless steel cups instead of throwaway paper, plastic, or thermocol products.
- ✦ Use cloth towels and napkins instead of paper towels and napkins.
- ✦ Take a cloth bag to the grocery store instead of using a paper or plastic bag.
- ✦ Use the comic pages from the newspaper as wrapping paper.
- ✦ Use glass/stainless steel containers or reusable lunch bags to carry lunch to school.
- ✦ Use coffee cans, jam bottles, and other types of containers to store things.
- ✦ Do not throw your old clothes, toys, furniture, and other things that you no longer use. Rather, donate them to a centre that collects donations or exchange them with your friends.

We can contribute towards the conservation of natural resources by taking these three important steps - reducing consumption, recycling waste, and reusing old things.

ENVIRONMENT PROTECTION AND CONSERVATION

Conservation of environment means the proper use and management of natural resources. It includes water, air, land, earth deposits, wildlife, and natural vegetation. Protection of the environment has become a significant issue today, not only in India but all over the world.

Some of the essential steps for the protection of the environment are:

- ✦ Develop environment friendly habits, such as proper handling of wastes and refrain from using polythene bags. (When discarded, such bags do not decompose in the soil). Also, do not throw things in the seas, rivers, and lakes.
- ✦ Use less electricity by making sure that lights and appliances are turned off when not in use.
- ✦ Refer to the energy star ratings while buying electrical appliances like air conditioners and refrigerators. These appliances would consume less power, reduce electricity bills, and reduce the effects of global warming.
- ✦ Use LED and CFL bulbs instead of incandescent bulbs. Utilise renewable energy sources as much as possible. Use solar heaters, solar cookers, and other appliances that function on solar power.



- ✦ The emissions from cars are harmful to the environment. Whenever possible, walk short distances or use a cycle instead of driving. When required, use car pool, or use public transport. It reduces environmental pollution and it is healthy for you too!
- ✦ Use water judiciously for daily chores like bathing, brushing teeth, drinking, washing, cooking, etc.
- ✦ Practise rainwater harvesting at home. Encourage the use of drip irrigation.

- ✦ Practise composting. This is an effective way to reduce greenhouse gas emissions.
- ✦ Try to educate people in your locality for the protection and judicious use of natural resources.
- ✦ Encourage afforestation, i.e., planting and growing more trees in deforested areas. Contribute as much as you can to the conservation projects that happen in your locality.
- ✦ Use alternative fuels like CNG (Compressed Natural Gas) in vehicles, instead of petrol and diesel.
- ✦ Industrial wastes and sewage must be treated before they are released into the water bodies.
- ✦ Use biogas and biofuels at home.



It is not the responsibility of governments and big companies only to take steps to conserve the environment. Every one of us should participate in protecting and preserving the planet for ourselves and our future generations.



ACTIVITY ZONE

For Implementation

Recycle, Reuse, and Reduce, is one of the best ways to conserve the natural resources and the environment. Prepare a plan of action based on the 'Three R's' strategy for your home, which can be practised by all the family members. Share your plan with the class.



ASSESSMENT TIME

A. Multiple Choice Questions:

1. Biotic factors include all the

a. Non-living things	b. Living things
c. Both living and non-living things	d. Natural resources
2. Examples of abiotic factors are

a. All the waterbodies	b. All the landforms
c. Water, soil, air, light	d. All the human-made things
3. Human environment refers to the

a. The natural surroundings of humans	b. The surroundings made by humans
c. All the social institutions and organisations	d. Both b and c
4. An ecosystem is any community of living and non-living things that

a. Work together	b. Interact with each other
c. Are independent of each other	d. All of these

5. All natural resources need to be conserved because
- a. They will soon decay
 - b. They will soon get exhausted
 - c. They are very costly
 - d. None of the these

B. Fill in the Blanks:

1. An is a community of living and non-living components which are interdependent on each other.
2. In an ecosystem, the components include all the living organisms of the ecosystem.
3. Human-made environment includes human activities and their interaction with the components.
4. Living organisms which depend directly or indirectly on autotrophs for their food are called
5. Air is made up of several gases but the two most important gases for living beings are and

HINTS

- Ecosystem
- Oxygen, Carbon dioxide
- Heterotrophs
- Abiotic
- Biotic

C. Answer the Following Questions:

1. What is environment?

Ans. Environment comprises our surroundings—the air we breathe, the water that covers the earth's surface, the plants and animals around us, and much more.

2. Define the term 'ecosystem'.

Ans. An ecosystem is any community of living and non-living things that function together.

3. Why is it important to conserve natural resources?

Ans. It is important to conserve natural resources because as we continue to overuse the natural resources, a serious natural imbalance will be caused in the environment and many natural resources may soon get exhausted.

4. What are some of the most dangerous effects of the depletion of ozone layer?

Ans. The depletion of ozone layer exposes living things to UVB and UVC rays. The harmful effects of these rays can affect ecosystems and humans, and can cause the extinction of certain species.

5. What does the term 'conservation of environment' imply?

Ans. Conservation of environment implies the proper use and management of natural resources.

D. Answer in One or Two Sentences:

1. What do you understand by overexploitation of natural resources?
2. When is Earth Day celebrated?
3. Define greenhouse gases.
4. What is the full form of three Rs?
5. What do you mean by conservation of environment?

E. Answer the Following Questions:

1. Explain the composition of biotic and abiotic factors in the environment. Give suitable examples to distinguish between the two factors.
2. 'Each ecosystem is unique, but all ecosystems consist of three primary components'. Comment.
3. Can development and conservation of environment go hand-in-hand? Explain your point of view.
4. What are some of the factors that cause imbalance in an ecosystem?
5. Protection of the environment has become an important issue today. Suppose you start a new venture as an entrepreneur, how will you contribute towards protecting the environment?

F. Application Based Questions:

1. Renu lives in a society where the residents are facing an acute water crisis. Suggest some ways to the residents to conserve water.
.....
.....

2. Swati uses wood and cow-dung cakes as fuel in her kitchen. She is not aware that these fuels pollute the environment. Suggest some alternative eco-friendly fuels to her to avoid air pollution.
.....
.....



ACTIVITY ZONE

For Better Concept Clarity

Prepare posters showing environment conservation in the neighbourhood, school, or public places.

GROUP DISCUSSION



Conduct a Group discussion in your class on the topics

- a. 'Hazards of deteriorating environment'
- b. 'Various factors that influence our environment'



Importance of Green Economy

Life on Earth is possible because of the natural environment, but today our natural environment is at risk. To fulfil the demands of the growing population, natural resources are being consumed at a much faster rate than ever before. Trees are being cut down for making new roads, expressways, shopping complexes, and for constructing housing societies. Such human activities have various adverse effects on the natural environment.

Rapid industrialisation, commercialisation, and the growing needs of the people has led to an increase in the number of industries, power plants, vehicles, and use of chemical fertilisers. All this is leading to environmental pollution (air, land, and water). Increased pollution and greenhouse gas emissions and depletion of natural resources contribute to global climate change.



The Need for Green Economy

HUMAN ACTIVITIES AND ENVIRONMENT

Environment and human activities are closely linked to each other, one impacts the other. Therefore, by gradually damaging the natural environment and depleting the natural resources by their activities, humans are threatening their very own existence.

The environment affects people

- + Climate
- + Water availability
- + Shelter availability
- + Soil for plant growth



People affect the environment

- + Burning fossil fuels
- + Creating urban areas
- + Cutting forests for wood
- + Flushing waste into rivers

The future of this planet is in our hands. There is a need to develop an attitude to care and preserve the quality of the environment. This can be achieved by developing **green skills**, which deal with protecting the environment for the future, creating jobs that protect the environment, reducing energy consumption, and minimising waste and pollution.

Green skills refer to the knowledge, abilities, values, and attitudes needed to live in, develop, and support a society which reduces the negative impact of human activity on the environment.

Our life depends on natural resources present in the environment like air, freshwater, and soil. By emitting pollutants, greenhouse gases, and waste, we cause drastic and irreversible damage to the environment. For a long time, we humans believed that natural resources are unlimited. Therefore, we exploited the resources available to us with a little thought of their replenishment. The economic prosperity we are enjoying right now will not last forever because natural resources are getting consumed at a much faster rate than before. There is already a scarcity of food, water, fuel, and pure air in many parts of the world. What is the solution to these problems? Environmental scientists believe that transition towards **green economy** will help in countering these ecological problems.

GREEN ECONOMY

In order to understand green economy, it is essential to first understand the term 'economy'. An **economy** is a system of organisations and institutions that either facilitate or play a role in the production and distribution of goods and services among the members of a society.

Green economy is an economy that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities.

Green economy can be seen as a mean to achieve better quality of life on this planet by balancing environmental, economic, and social elements. It leads to sustainable development, which fulfills the needs of the present generation without exhausting the resources for future generations.

Over the past decade, many scientific studies have highlighted the problem of environmental degradation and climate change. As a result, the concept of the green economy has become a global agenda. Some important global events over the last few decades focusing on green economy include:

- + 1972 Stockholm Conference
- + 1987 Brundtland Report
- + 1992 Earth Summit and Agenda 21
- + 2012 Rio+20 Conference

AIMS OF GREEN ECONOMY

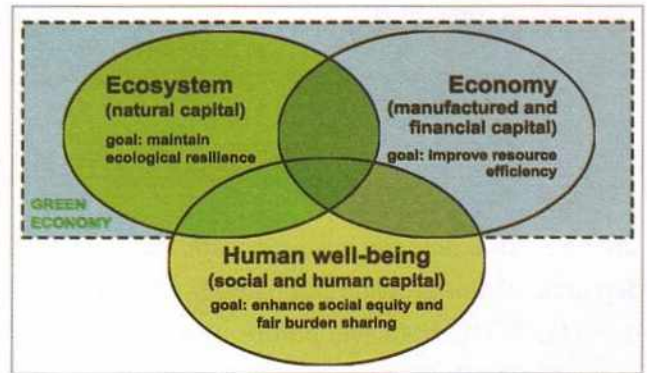
The United Nations Environment Programme (UNEP) has proposed a three-pronged approach for the attainment of the green economy: **Low carbon growth, Resource efficiency, and Social inclusion.**

LOW CARBON GROWTH

Human activities like burning of fossil fuels (coal and oil) have increased the concentration of CO₂ and other greenhouse gases (GHG) like Nitrogen Oxide and Methane in the atmosphere. This prevents Earth from cooling at night, thus causing global warming and climate change. The term 'Low Carbon' means reduction of all greenhouse gas emissions. Low Carbon Growth is now generally expressed using the term **Low Emission Development Strategies (LEDS)**. LEDS are generally used to describe the national economic development plans or strategies that include low-emission and climate-resilient economic growth, which means, economic development that does not harm the environment.

Consequences of carbon growth

- + The greenhouse effect has warmed up oceans and caused melting of glaciers, which in turn are resulting in rising sea levels and changes in the amount and pattern of precipitation. Rising sea levels flood coastal areas and influence shipping industry.
- + Global warming is causing more wildfires, droughts, and tropical storms.
- + Climate change is causing tremendous loss of property and human life. The destruction of infrastructure from hurricanes, tsunamis, and other disasters take years to recover. Moreover, these disasters cause chronic waterborne diseases and lasting psychological traumas.
- + Carbon dioxide also contributes to air pollution creating acid rains. Acid rains damage trees and other plant life and further pollute water and soil.
- + Polluted water and soil contaminate vegetation that we eventually consume.
- + Carbon dioxide emissions displace oxygen in the atmosphere, thus impacting human health. There has been a rapid rise in health issues like breathing problems, skin diseases, headaches, etc., due to the increase in atmospheric carbon dioxide levels.



Let's Search For

RIO+20

What was the main aim/agenda of 2012 Rio+20 Conference?



Melting Glaciers

Thus, a low-carbon economy is essential for environmental sustainability and future prosperity. To achieve low carbon growth, green economy develops economic activity which has minimal output of greenhouse gas emissions into the biosphere. In other words, the green economy controls carbon emission in the environment by using fuels more efficiently, restoring carbon in soil and biomass, and using low carbon technologies to generate energy-efficient products and services.

RESOURCE EFFICIENCY

As discussed, earlier, we are depleting our natural resources by overusing and exploiting them. Green economy conserves these resources as it involves increasing prosperity by using the resources economically and without affecting the environment. In other words, the green economy emphasises becoming more **resource efficient**.

Resource efficiency involves efforts at three levels - government, corporate, and individual. Apart from environment friendly technological innovations, it requires changes in almost all aspects of our life—clean transportation, efficient and cleaner energy production, water management, land management, greener buildings, waste management and disposal, and so on.



SOCIAL INCLUSION

Social inclusion essentially means sharing the responsibility as well as the benefits of economic growth across all sections of society. The shift towards green practices require investments by both, private and public sectors leading to the growth in income and employment through green jobs.

According to the United Nations Environment Programme (UNEP), a **Green Job** is defined as a work in agricultural, manufacturing, research and development, administrative, and service activities that contribute towards preserving or restoring the quality of the environment.

Green jobs involve greater efficiency in the use of energy, water, and material. These jobs help to protect ecosystems and biodiversity, de-carbonise the economy, and minimise all forms of waste and pollution.

Green jobs span a wide range of skills, educational backgrounds, and occupational profiles. They occur in almost all fields. For example, people employed in setting up a solar panel or operating a wind turbine are involved in a green job because they are working towards generating wind energy, which is an alternative to burning fossil fuels. Even the industries that supply raw material for building wind turbine towers are also contributing to the green economy.

Let's Know More

What is a green building?

It is a building which in its design, construction, and operation, reduces or eliminates negative impacts, and can create positive impact on our climate and natural environment. Green buildings preserve precious natural resources and improve the quality of life.

GLOBAL IMPACT OF MOVING TOWARDS GREEN ECONOMY

Given below are some of the main global impacts of moving towards green economy:

- Contribution in preventing melting of glaciers and resulting rise of sea level
- Contribution in preventing climate changes such as variations in rainfall, temperature and crop production, and climate disasters like droughts and floods
- Contribution to fight against global warming, desertification (fertile land becoming infertile), and loss of biodiversity (the variety of plant and animal life in a particular habitat)



- ✦ Improvement in air, water, and soil quality
- ✦ Reduction in disease and deaths of living beings
- ✦ Reduction in money spent on conservation of environment, relief, and rehabilitation of people
- ✦ Increase in new areas of manufacturing such as biofuels and renewable energy sources
- ✦ Investment in alternative energy sources and becoming more energy efficient
- ✦ Improving resource efficiency and thus increasing industrial and agricultural production
- ✦ Increase in new areas of employment

GREEN ECONOMY IN INDIA

India has led by example in moving towards green economy. It has taken gradual steps towards a green economy in the last decade and has tried to balance it with continuous development.

India aims to address the following three issues through green economy initiatives:

- ✦ Issues of energy scarcity
- ✦ Issues of environmental pollution
- ✦ Issues of unemployment or underemployment



GREEN SKILL DEVELOPMENT PROGRAMME (GSDP) IN INDIA

The Skill India Mission of the Government of India, Ministry of Environment, Forest and Climate Change, has started the Green Skill Development Programme (GSDP). It aims to target a large number of people who will be trained as per the needs of the green sector.

Aims of the Green Skills Development Programme (GSDP):

1. To train green skilled workers with technical knowledge and commitment to conserve and preserve the environment.
2. To generate new jobs for green skilled workers who will help to protect ecosystems and biodiversity, reduce energy consumption, and minimise waste and pollution.
3. To preserve or restore environmental quality so that it lasts for future generations.

Some of the fields covered under Green Skill Development Program are:

- ✦ Sewage Treatment Plant
- ✦ Waste Management
- ✦ Water Budgeting
- ✦ Forest Management
- ✦ Pollution Monitoring (Air/Water/Soil)
- ✦ Sewage Treatment Plants (STP), Effluent Treatment Plants (ETP), and Common Effluent Treatment Plants (CETP)
- ✦ Bamboo Management



JOB OPPORTUNITIES INVOLVING GREEN SKILLS

The Indian economy is expected to generate many jobs in the green sector. Youths completing the GSD Course(s) can be employed in the following fields:

- ✦ Wildlife (zoos, wildlife sanctuaries, national parks, biosphere reserves, botanical gardens, nurseries, wetland sites, State Biodiversity Boards, Biodiversity Management Committees, and Wildlife Crime Control Bureau)
- ✦ Industries (involved in production or manufacturing of green products)
- ✦ Tourism (as eco-tourist guides)
- ✦ Agriculture (as organic farmers or green practitioners)
- ✦ Education and research sectors
- ✦ Waste management (in Municipal Corporations, Councils, urban local bodies to advise on how to improve sewage, sanitation, land use services, and tackle pollution)
- ✦ Water management
- ✦ Construction related areas

Climate change and pollution are posing an alarming and fast approaching threats to us and for our future generations. The world needs to take drastic and immediate actions to protect our planet for our continual existence. Governments, private sector, NGOs, and groups of awakened citizens worldwide are working diligently towards an efficient and inclusive green economy. However, there is a dire need to bring awareness to the citizens of the world to adapt to an eco-friendly lifestyle.



Let's Know More

Bamboo Management

Bamboo is a common tropical perennial grass, which grows widely in Asia. It grows rapidly and many raw materials are obtained from it. It is a source of raw material for building paper. Young shoots are used as food. It is a very important plant to control soil erosion. Its cultivation is being encouraged as a commercial crop.

Let's Know More

According to a recent WHO (World Health Organization) survey, 13 of the 20 most polluted cities are in India.

Let's Know More

Skill Council for Green Jobs is one of the most recently launched initiatives of the Government of India aligned to the National Skill Development Mission. It is promoted by the Ministry of New and Renewable Energy (MNRE) and Confederation of Indian Industry (CII).

Recap



- ✦ **Green skills** refer to the knowledge, abilities, values, and attitudes needed to live in, develop, and support a society which reduces the negative impact of human activity on the environment.
- ✦ Our environment comprises our surroundings—the air we breathe, the water that covers the earth's surface, the plants and animals around us, and much more.
- ✦ An **ecosystem** is a community of living and non-living components which are interdependent on each other.
- ✦ Several ways of conserving natural resources are - to use renewable resources judiciously, reduce the consumption of natural resources, do not harm the natural environment, and educate communities to take care of the environment.



ASSESSMENT TIME

A. Multiple Choice Questions:

- Green skill is the ability to
a. Plant trees b. Protect trees c. Identify trees d. Conserve the environment
- Setting up solar panels is an example of
a. Green job b. Social job c. Traffic job d. Hydel work
- Green economy can lead to
a. New job opportunities b. Low carbon economy
c. Better quality of life on this planet d. All of these
- Imparting green skill sets will generate
a. More nurseries b. New species of trees
c. Renewal of fossil fuels d. New employment opportunities
- Manufacturing diesel generator sets is an example of green job.
a. True b. Partially True c. False d. Partially False

B. Fill in the Blanks:

- Green economy emphasises on becoming more efficient.
- buildings preserve precious natural resources and improve the quality of life.
- is a tropical commercial grass which controls soil erosion.
- A green economy is essential for sustainability and future prosperity.
- Transition towards a can help us in countering the ecological problems.

HINTS

• Green economy • Bamboo • Green • Environmental • Resource

C. Answer the Following Questions:

- Define green skills.

Ans. Green skills are the knowledge, abilities, values and attitudes needed to live in, develop and support a society which reduces the negative impact of human activity on the environment.

- Define green economy.

Ans. Green economy is an economy that results in improved human well-being and social equity while significantly reducing environmental risks and ecological scarcities.

- What do you understand by the term green job?

Ans. Green job is defined as a work in agriculture, manufacturing, research and development, administrative, and service activities that contributes towards preserving or restoring the quality of environment.

- What are the aims of green economy?

Ans. Green economy has three aims: Low carbon growth, Resource efficiency, and Social inclusion.

- What are the six key points on which green economy is based?

Ans. Green economy is based on the following key points: Clean Transportation, Efficient and Cleaner Energy Production, Water Management, Land Management, Greener Buildings, and Waste Management and Disposal.

- Explain the term sustainable development.

Ans. Sustainable development means the development that fulfills the needs of the present generation without exhausting the resources for future generations.

D. Answer in One or Two Sentences:

- Enlist any three human activities that cause damage to the environment.

2. List any two job opportunities in the green sector.
3. How do greenhouse gasses affect our environment?
4. How do green jobs help in restoring the quality of the environment?
5. What issues does India aims to address through green economy initiatives?

E. Answer the Following Questions:

1. What is green skill and what is its importance in the present times?
2. Explain the relationship between man and environment. How does one impact the other?
3. Explain the concept of social inclusion.
4. How can the youth benefit from the Green Skills Development Programme (GSDP) of the government of India?
5. What are the benefits of moving towards green economy?
6. Why is low carbon growth the chief aim of green economy? How do the increased carbon emissions impact the environment?

F. Application Based Questions:

1. Imagine you are involved in Green Skill Development Programme. Some students have come to your office to know about some of the fields covered under this programme. Suggest them some job opportunities involving green skills.
.....
.....
2. Bahadur Lal is working as a junior officer in the National Park. How is he contributing towards green economy? Justify your answer.
.....
.....



ACTIVITY ZONE

For better concept Clarity

- A. Take a trip of your city (along with an elder or your teacher) and list down the different sources of environmental pollution. Prepare a table under the following headings:
 - ✦ Types of Pollution (Air, Land, Water, etc.)
 - ✦ Sources
 - ✦ Effects of the pollution
 - ✦ Suggestions for controlling pollution
- B. Refer to the Internet and prepare a PowerPoint presentation on the topic, '**Benefits of Green Buildings**'.
- C. Prepare a poster showing the importance of green economy with the help of newspaper/magazine cuttings. Also, write a slogan on the green economy.



GROUP DISCUSSION

Organise a debate in the class on the following topics:

- ✦ **Banning diesel vehicles will help in reducing environmental pollution**
- ✦ **Green skills are not as important as technical skills**
- ✦ **Global impact of moving towards green economy**

PART-B



VOCATIONAL SKILLS

UNIT - I:

Introduction to IT and ITeS Industry

UNIT - II:

Data Entry and Keyboarding Skills

UNIT - III:

Digital Documentation

UNIT - IV:

Electronic Spreadsheet

UNIT - V:

Digital Presentation

Applications of IT in ITeS Industry

Technological development has revolutionised our everyday life to a great extent. It has led to the emergence of a new global economy. Technology has virtually transformed the world into a global village. With a click of a button, you can find any information you want.

Let us consider a few situations:

- ✦ You are out on a family vacation and have lost your way to your hotel. What would you do? 'Google Maps' comes to the rescue. You can launch the Google Maps app on your phone, and navigate easily through the unfamiliar location.



- ✦ You want the latest information for your project on health and nutrition. From where would you get it? In this situation, Internet will help you gather the required information.
- ✦ You wish to buy binoculars to go for birdwatching with your friends; a few clicks on an online shopping website, and you get them delivered at your doorstep.



Can you imagine life without networking, where there is no phone, no radio, and no television? No, you cannot. Today, being in the information era, technology has a great impact on our daily lives — from working to socialising and learning to playing. The digital age has transformed the way young people communicate, seek help, access information, and learn. Nowadays, technology has become an integral part of our everyday life.

ICT is an acronym for Information and Communication Technology. It refers to all the devices, networking components, applications, and systems that allow people and organisations to interact with the digital world. ICT comprises all communication technologies, such as the Internet, mobile phones, satellite communication, wireless networks, etc.

UNESCO (2009) defined the term "ICT" as "The system of technologies, tools, and devices that are used to transmit, process, store, create, display, share, or exchange information by electronic means".

INFORMATION TECHNOLOGY

Information Technology (IT) has changed everything over the years. Nowadays, IT refers to the use of computers and other resources to create, store, manage, and exchange all kinds of information. It is an essential and tightly integrated part of every business today.

IT has multiple benefits for a business, such as:

- ✦ Helps to reach more potential customers
- ✦ Provides better service to customers
- ✦ Allows customers to provide feedback to improve the business



- ✦ Reduces costs and improves efficiency
- ✦ Streamlines and reorganises operations
- ✦ Maximises profit and minimises waste
- ✦ Sustains better relations with key associates

INFORMATION TECHNOLOGY ENABLED SERVICES (ITeS)

As the name suggests, the services enabled by the use of Information Technology can be termed as ITeS. These services improve the efficiency of an organisation and help in reducing cost.

In simple terms, ITeS is a type of outsource service that involves the use of IT. These can be Human Resource, Insurance, Finance and Banking, or Telecommunication services, etc. The most common examples of ITeS that you come across in your day-to-day life are call centres, back-offices, content development, and logistics management.

For each ITeS service, there are two things involved:

- ✦ Technology that enables the service
- ✦ A communication device

The combination of the correct technology and communication channel results into very high degrees of improvement in the service quality.

Let us discuss a few most common IT enabled services:

CALL CENTRE

It is a service centre to provide information and support to a customer. It has trained consultants, high-quality telecom facilities, access to the Internet, and other online information.

A large number of telephone calls are received and transmitted by trained customer service representatives. A typical call centre functions as follows:

- ✦ A customer uses a contact number (usually a toll-free number) that is connected to a customer support centre.
- ✦ When a call reaches the call centre, a trained customer service representative answers the customer.
- ✦ To make sure that the highest standards of customer service are delivered, the IT experts create the technology to support the call centre.
- ✦ With the increase in world-wide connectivity, it makes no difference whether the call centre is located in the local city of the customer or anywhere else in the world.



BUSINESS PROCESS OUTSOURCING (BPO)

Business Process Outsourcing (BPO) is a practice of outsourcing a part of a business to another organisation that is an expert in handling such kind of processes. The two organizations can be in entirely different parts of the world. In India, BPO industry is highly organised and hence various kinds of jobs are outsourced here. BPO is often divided into two main types of services — back office and front office. Back office services include processes, such as billing or purchasing. Front office services pertain to the support provided to its customers, such as marketing and technical support. Other BPO services are as follows:

- ✦ Transaction and Payment Processing services
- ✦ Document Management services
- ✦ Order Management services
- ✦ Accounts Management services
- ✦ Technical Support services
- ✦ Tele-marketing services
- ✦ Customer Support services
- ✦ Healthcare services
- ✦ Legal Process Outsourcing services
- ✦ E-publishing and Web Promotion services

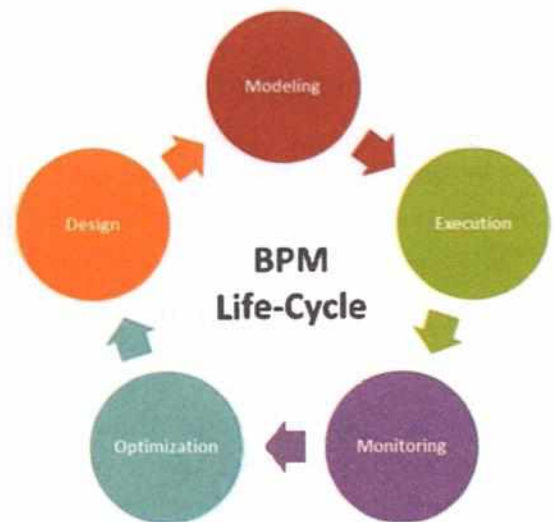


BUSINESS PROCESS MANAGEMENT (BPM)

BPM is a discipline in operations management. It is used as an ongoing process that focuses on developing new processes and improving corporate performance by managing business processes. A combination of methods used to manage a company's business processes is BPM. BPM is considered the bridge between information technology (IT) and business.

IT-BPM sector is contributing 8% to India's GDP and exports. The growth of this sector has provided India huge economic and social benefits including employment, raising income levels, and promoting exports. It has placed India on the world map with an image of a technologically advanced and knowledge-based economy. In the last decade, this industry has doubled in terms of its revenue. BPM service industry is doing outstandingly well in India because of the following advantages:

- ✦ Finest and high-quality services are delivered through the state-of-the-art hardware and software. It requires a huge amount of investment to ensure superior grade service delivery.
- ✦ It guarantees flawless and excellent service by following repeated quality checks.
- ✦ Government of India is also boosting the BPM industry by providing the required infrastructure and logistical support.



Structure of the IT-BPM Industry

The companies within the IT-BPM industry are classified on the basis of the following parameters:

- ✦ The area to which the company is serving
- ✦ The type of services the company is providing
- ✦ The geographical reach of the company
- ✦ Scope of operations and profit earned by the company

Multinational Companies (MNCs): A multinational corporation is a corporate organisation that owns or controls the production of goods or services in at least one country other than its home country. They operate in multiple locations worldwide. The two main characteristics of MNCs are:

- ✦ Their large size
- ✦ Their worldwide activities are centrally controlled by the parent companies

Indian Service Providers (ISPs): ISPs initially began their operations in India. Most of these companies have their control centres in India while having workplaces at many international locations.

Global In-house Centres (GIC): GIC organisations work for their parent organisation only and do not function for external clients. The Indian Global In-house Centre, or GIC, has evolved significantly over the last 20 years. These organisations were originally known as captive centres. GICs are offshore centres that perform specific functions for large organisations. There are about 1,100 GICs in India that employ at least 9,00,000 individuals. Further hiring in GICs is expected in areas, like cyber security, analytics, and digital innovations.

APPLICATIONS OF IT

Every aspect of our daily routine has altered with the advent of IT. It helps to improve the quality of our lives, by giving us easy access to information as well as a large number of products and services. IT has transformed the way we live, the way we work, the way we conduct business, and the way we communicate with each other. Although, these services provide us with innumerable benefits, it also makes us susceptible to various cyber threats. Thus, it is our responsibility to take precautions while using these services to keep ourselves safe from cybercrimes.

IT IN HOME AND EVERYDAY LIFE

IT facilitates access to various services and technologies in our day-to-day lives. With its increasing importance, IT literacy has become a functional requirement to ease our lives. The World Wide Web has made it possible to search for information on varied issues, such as education, health and nutrition, current affairs, social aspects, finance, and many other important issues. Some of the ways we use IT in our everyday lives are:

- ✦ We use online services to pay our utility bills, like the telephone bill, electricity bill, gas bill, water bill, mobile bill, etc.
- ✦ We read online newspapers and stay updated. Now, we do not have to wait for the next day to know what happened a day before. Online news services provide news that is instantly and continuously updated.
- ✦ We watch entertainment programs on the Internet.

- ✦ We play online and offline games on our smartphones and Pcs.
- ✦ We get connected with our family, relatives, and friends even if we are geographically at distant locations using e-mail, social media, video calling, etc.
- ✦ We do online shopping to buy products, such as vegetables, groceries, cosmetics, clothes, medicines, electronic devices like air conditioners, laptops, etc. You can buy almost everything online.
- ✦ We can book hotels, flights, railways tickets, and movie tickets online.
- ✦ We can get any type of information instantly by searching on the Internet. Some commonly used search engines are Google, Bing, Yahoo, etc.
- ✦ Information technology plays a pivotal role in education and learning. It allows students to obtain resources and information with the click of a button. Students also access various educational videos available on the Internet for the clarity of concept.

IT IN EDUCATION SECTOR

Information technology has the ability of speeding up information delivery, and this ability can be used in improving our education environment. With the implementation of information technology, costs of accessing educational material are cut down, and it makes it easy for students to learn from anywhere. To reduce the level of illiteracy, it is very important to make education accessible at any time to anyone.

New technologies are changing the way of teaching and learning. Computers and information technology are extensively used in education for teaching-learning and assessment. Both teachers and students are using these new educational technologies to achieve specific academic goals. The software and hardware technology is used for designing and broadcasting information to the learners in various forms including audio, video, still pictures, and animation.

Some of the uses of information technology in education sector are:

Educational Resources

Information technology makes it easy to access academic information at any time. A variety of teaching resources are available for teachers to teach in a better way. Both students and teachers use information technology to acquire and exchange educational material. Online assessments help to evaluate the students without bias. Teachers can easily provide visual and audio classes to their students using computers and the Internet. This breaks the boundaries of accessing information, for example, a student can attend a lecture while not being physically present in the classroom. Also, teachers can assign tasks to students via e-mails or campus educational forums. There is a collection of free and paid online services and apps, like YouTube, Kindle books, G Suite for Education, Khan Academy, and Code.org available for teachers as well as students, which provide a lot of useful study material.

Online Learning

In the past, learning was limited to a physical classroom; students and teachers could only access academic information while at school. Today, all that has changed and a student can access information at any given time of the day. You can also contact a teacher or a trainer via Internet to use WBT (Web-based Training). Various educational videos can also be accessed through YouTube and other platforms. The geographical location of a student is not at all a matter of concern now. Information technology has facilitated online education, so a student in India can study the same course as a student in USA or Europe. Moreover, when it comes to getting employment, all these students will have the chance to compete for the same job.

Application in Classroom

There are many ways in which IT is used for education in the classroom, such as:

- ✦ Collecting educational information from the Internet
- ✦ Online group discussions with students/educators present in another physical location via video conferencing
- ✦ Smart board presentations
- ✦ Using Audio-Visual aids for teaching
- ✦ Education by means of educational games

Use of Audio–Visual Teaching Aids

Information technology has changed the way we learn and interpret information. The use of audio-visual aids helps students learn faster and easily. When an educator explains a subject through pictures, animations, and audio-visuals, it makes students understand the topic easily. Visual presentations using projectors help the students remember the concept better. Our brain tends to remember visual illustrations more easily than text.



Learning Management System (LMS)

A Learning Management System (LMS) is a software application or Web-based technology used to plan, implement, and assess a specific learning process.

- ✦ *Learning* – It is used to deliver education courses or training programs.
- ✦ *Management* – It helps to organise these courses (create them, change them, assign them to students, grade them, etc.).
- ✦ *System* – It refers to the software.

LMS lets you create E-learning content (lessons), organise it into courses, delivers the content to the students through an interface, and enrolls them to the said courses. It finally monitors and assesses their performance (attendance, grades, etc.) upon completion of the course.

An LMS is the engine that powers E-learning. It consists of two separate parts:

- ✦ A server component that performs the core functionality (creating, managing, and delivering courses, authenticating users, serving data and notifications, etc.)
- ✦ A user interface that runs inside your browser as a web (like Gmail or Facebook), that is used by administrators, instructors, and students.

IT AT WORKPLACE

IT facilitates innovation, creative expression, time management, work efficiency, and effective management at workplace. IT has become an integral part of every workplace because it provides cost effectiveness, enhanced satisfaction, faster and simpler execution of work, rapid responses, and easier operational procedures. Some of the benefits of IT at offices are:

- ✦ It improves communication within the workplace and with the customers.
- ✦ It makes every employee's job easier and more efficient.
- ✦ It helps employers by increasing productivity.
- ✦ It increases speed and accuracy of many work processes, which improves overall work efficiency.
- ✦ Documents can be written and edited more quickly using a word processing program.
- ✦ Recording, calculations, comparison, and analysis of data can be easily and accurately done using a spreadsheet program.
- ✦ Databases are used to store large quantities of data related to personnel, inventory, customers, sales, accounts, logistics, etc.
- ✦ The process of screening, recruiting, and hiring new employees has become highly improved with the use of IT.



IT IN LIBRARY

IT is used in libraries to record library activities, operations and various other library services. The functioning of a library is majorly benefited by the use of IT for collection, processing, storage, retrieval, and dissemination of recorded information. The use of new technologies like, Word Processing, Text Editing, Character Recognition, Voice Recognition, Electronic Publishing, CD-ROM, Electronic Data Processing, Database Management System, E-mail, etc. have rapidly transformed the libraries from conventional methods.

IT IN BUSINESS AND MARKETING

IT facilitates E-commerce which includes marketing, product browsing, shopping, and processing orders. Business communications through e-mail, video conferencing, and mobiles enable people to work from anywhere. Documents can be shared instantly, and decisions can also be taken quickly.

Some information technology tools that are used to reach out to people across the world are :

- ✦ Blogging
- ✦ Computerised presentations
- ✦ Customer Relationship Management (CRM) systems
- ✦ E-mail communication
- ✦ Graphic Design software
- ✦ Websites
- ✦ Social media



E-commerce

E-commerce refers to the activity of buying or selling of products through the Internet. E-commerce or online shopping allows users to search and compare various products and services, which they can buy at competitive prices. The products are delivered right at their doorstep, thus saving time and money. E-commerce offers a range of products from home appliances, apparel, toys, and electronics.

IT IN BANKING

E-banking refers to a method of banking in which a customer conducts transactions through the Internet. It has enabled people to conveniently and quickly conduct their financial transactions online. These days, every traditional service that a local bank directly provides is available online. Online banking has facilitated the networking of banks and other financial institutions, resulting in saving time, effort, and money. Transferring money between accounts using IMPS, RTGS, and NEFT, viewing account details, opening fixed deposit accounts as well as making online payments for products and services can be done at a click of the mouse. Withdrawing money at any time through ATMs (Automated Teller Machine) is also possible because of the use of IT.

The use of technology in banking is the backbone of society today. Millions make use of this service daily to manage their finances. Most businesses also use this feature to pay their employees and to transfer money. Additionally, banking systems do their best to ensure there are firewalls and limits in place, to reject any curious hacker. The following are the examples where IT is used in the banking sector:

- ✦ Online Banking
- ✦ ATMs
- ✦ Banking apps
- ✦ Tele-banking
- ✦ Debit and Credit Cards

Let's Know More

IMPS: Immediate Payment Service
RTGS: Real Time Gross Settlement System
NEFT: National Electronic Funds Transfer



IT IN INSURANCE

With the help of a computer database, the insurance companies can keep all their records up-to-date. Starting date of policies, processes for continuation, date of next installment, date of policy maturity, interest dues and bonus, survival benefits, etc. are stored using computers. Nowadays, insurance policies can be purchased online through the respective company's website. The policy premiums can also be paid online at regular intervals from the comfort of your home.

IT IN COMMUNICATION AND SOCIAL MEDIA

Today, we cannot imagine our life without mobile phones, e-mail, or social media networks, like WhatsApp, Facebook, Instagram, Twitter, or Snapchat. These services help us to keep in touch with our family and friends, connect with like-minded people, access information regarding current issues, and use Internet-based services on the go.

IT IN ENTERTAINMENT AND ARTS

IT has revolutionised the entire entertainment industry by providing a variety of leisure activities, such as online games, music, and videos, etc. Internet is used as a medium for the distribution of music, videos, and other content on mobile phones as well as smart TVs. Digital transmissions are used to broadcast programmes on TV and radio. Live TV streaming services – Netflix and Amazon Prime Video, and mobile phone apps, all use IT to provide content for entertainment.

IT has also encouraged artists to explore their creativity by providing digital tools for photography, videography, drawing, painting, designing, etc. IT can also enable trainings and presentations of performing arts like music, drama, and dance.

IT IN HEALTH CARE

Use of IT in medical science is also known as Health Information Technology (HIT). Records of patients as well as various activities pertaining to hospital administration are maintained using Hospital Management System. A wide variety of technologies and tools are involved in the diagnostic process. Health IT covers a broad range of technologies used in health care, including:

- ✦ Electronic Health Records (EHRs)
- ✦ Clinical decision support using up-to-date clinical guidelines
- ✦ Patient engagement tools
- ✦ Computerised appointments with doctors
- ✦ Laboratory and medical imaging information systems
- ✦ Health information exchanges
- ✦ Medical devices



IT in health care plays key roles in various aspects of the diagnostic process, such as:

- ✦ Capturing information about a patient's diagnostic process
- ✦ Including the clinical history and interview
- ✦ Physical examination and diagnostic testing results
- ✦ Shaping a clinician's workflow and decision making in the diagnostic process
- ✦ Facilitating information exchange



Advances in medical technology continues with new sophisticated devices being developed. Nowadays, computerised machines are used for ECG, EEG, Ultrasound, CT scan and various other diagnoses. A variety of measuring instruments and surgical equipments are used to monitor conditions of patients during surgeries. Computers have become an integral part of laboratories and dispensaries. They are used in scanning and diagnosing different diseases. IT enabled special applications and wearable gadgets, like Fitbit helps to monitor heart rate and provide personalised information on physical fitness. One can search for and learn about diseases, their symptoms, cure, and precautionary measures on the Internet.

Use of IT in Diagnosis

Several sophisticated software and hardware are used in the diagnosis and treatment of life-threatening diseases. The technologically advanced machines help in the diagnosis of diseases at the initial stages, which results into providing better treatment to the patients accordingly. Some of these machines are:

- ✦ **Computerised Axial Tomography (CAT) Machine:** This machine performs a series of cross-sectional scans made along a single axis of a bodily structure or tissue and is used to construct a three-dimensional image of that structure. Diseases can be successfully diagnosed using these images.
- ✦ **Magnetic Resonance Imaging (MRI) Machine:** MRI machines use a magnetic field, radio waves, and a computer to detect the properties of living tissue. MRI software creates an image using the signals recorded by sensors.



CAT Machine



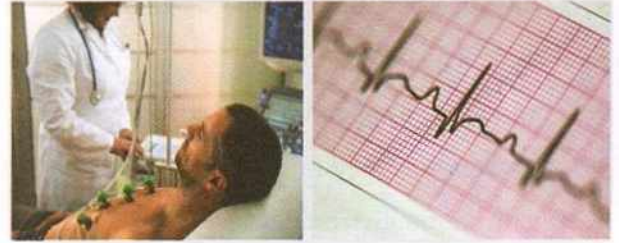
MRI Machine

- Cardiac Screening Machine:** A cardiac screening machine performs Echocardiography, which uses ultrasound to create moving pictures of the heart. A special camera takes



Cardiac Screening Machine

- Electrocardiogram (ECG) Machine:** An electrocardiogram (ECG) is a test which measures the electrical activity of your heart to show whether it is working normally or not. An ECG records the heart's rhythm and activity on a moving strip of paper or a line on a screen.



ECG Machine

pictures of the heart while the patient is at rest and following exercise to determine the effect of physical stress on the flow of blood through the coronary arteries and to the heart muscle. It helps in displaying the movements inside the heart and displays its physiology. This machine performs tests to find diseases, like thinning of veins and then recommends the treatment.

- EEG (Electroencephalography) Machine:** An electroencephalogram (EEG) is a noninvasive test that records electrical patterns in your brain. The test is used to help diagnose conditions, such as seizures, epilepsy, head injuries, dizziness, headaches, brain tumors, and sleeping problems. It can also be used to confirm brain death.
- Blood Sugar Testing Machine:** A blood sugar testing machine is a medical device for determining the approximate concentration of glucose in the blood. It is also called as glucose meter or Glucometer.
- Blood Pressure Measuring Machine:** A blood pressure measuring machine is simply a way to measure the performance of the heart and the rate at which it pumps blood. When the physician puts the cuff around your arm and pumps it up, the flow of blood cuts off with the pressure exerted by the cuff. As the pressure in the cuff is released, blood starts flowing again and the physician can hear the flow in the stethoscope. High or low blood pressure is harmful for our body and can result into many other severe health issues. The blood pressure measuring machine, also called as Sphygmomanometer, helps in keeping a constant check on our heart health.



EEG machine



Blood Pressure measuring machine or Sphygmomanometer

IT IN SCIENTIFIC RESEARCH AND ENGINEERING

Though people tend to think of science, engineering, and technology as three separate things, they are actually closely connected. Engineering and the development of new technologies are closely related to science. We use many technologies in scientific studies that help engineers to build new technologies. Some of the applications of IT in the field of scientific research are large computations, calculation of speed, cost and distance, new avenues of science exploration, and real-time record of observations, analysis, and collaboration.

Apart from the uncountable uses, computers are also used for:

- ✦ Storing large amount of data used for research work
- ✦ Performing complex calculations
- ✦ Computer Aided Design (CAD) applications
- ✦ Computer Aided Manufacturing (CAM) applications
- ✦ Simulating and testing the designs
- ✦ Visualising 3-D objects



IT IN THE GOVERNMENT AND PUBLIC SERVICES

The government uses large-scale computer applications in its daily operations. Digital India and e-governance initiative of government have resulted in providing many government services online, such as document processing for driving licenses, collection of taxes, exchange of information with citizens, and other government departments.

Government and Non-Governmental Organisations (NGOs) as well as International Government Agencies use IT applications to communicate and provide various services to the people. This is called as e-governance.

IT also provides a platform for interaction through government websites and apps. It helps the government to improve the efficiency of service delivery and the exchange of information, thus strengthening the democracy. Some examples of

the apps launched by government of India for digital empowerment of Indian citizens are Bharat Interface for Money (BHIM), Swachh Bharat Abhiyan, GSTRate Finder, UMANG, and MyGov.

The government departments use computer systems for preparing the electoral lists, PAN cards, etc. Computers are also used in the income tax and sales tax departments. Electricity bills also can now be paid online. The government is now using Electronic Voting Machines (EVMs) for elections, replacing the traditional voting slips and ballot boxes.





ASSESSMENT TIME

Answer the Following Questions:

1. How does IT help a business organisation?
2. What is BPO? Mention any five BPO services.
3. What steps have been taken by the Government of India to improve the efficiency of government services being delivered?
4. List any four social media services that help you to keep in touch with your family and friends.



ACTIVITY ZONE

For Better Concept Clarity

Create a presentation to represent the role of IT in the government and public services.



Recap



- ✦ ITC refers to all the devices, networking components, applications, and systems that allow people and organisations to interact in the digital world.
- ✦ IT refers to the use of computers and other resources to create, store, manage and exchange all kinds of information.
- ✦ The services enabled by the use of Information Technology can be termed as ITeS.
- ✦ The most common examples of ITeS that you come across in your day-to-day life are call centres, back-offices, content development, and logistics management.
- ✦ Call centre is a service centre to provide information and support to a customer.
- ✦ Business Process Outsourcing (BPO) is a practice of outsourcing a part of a business to another organisation that is an expert in handling such kind of processes.
- ✦ Business Process Management (BPM) is a discipline in operations management. It is used as an ongoing process that focuses on developing new processes and improving corporate performance by managing business processes.
- ✦ A Multinational Corporation (MNC) is a corporate organisation that owns or controls the production of goods or services in at least one country other than its home country.
- ✦ Indian Service Providers (ISPs) are companies that have their control centres in India while having workplaces at many international locations.
- ✦ Global In-house Centre (GIC) organisations work for their parent organisation only and do not function for external clients.
- ✦ A Learning Management System (LMS) is a software application or web-based technology used to plan, implement, and assess a specific learning process.
- ✦ E-commerce refers to the activity of buying or selling of products through the Internet.



SECTION 1: OBJECTIVE TYPE QUESTIONS - (SOLVED)

A. Multiple Choice Questions:

- What is the full form of ITeS?
a. Information Technology Enterprise Solution b. Information Technology Enabled Services
c. Information Technology Engaged Services d. Information Technology Evolved Solution
- It is a service centre to provide information and support to a customer.
a. BPM b. MNC c. ISP d. Call centre
- What is the full form of BPM?
a. Business Power Management b. Business Process Management
c. Basic Process Management d. Basic Power Management
- Which of the following is a BPO service?
a. Technical support service b. Customer support service
c. Order management service d. All of these
- Which of the following is a learning platform?
a. Facebook b. G Suite c. Snapchat d. Khan Academy
- Which of these activities is not an application of IT in education sector?
a. Educational games b. Videography of experiments
c. Ordering food online d. Smart board presentations
- What does WBT stand for?
a. Web based Training b. Website based Training
c. Webpage based Training d. None of these
- E-commerce refers to
a. Opening bank accounts b. Buying and selling products online
c. Calculating huge data using spreadsheets d. Making jobs easier at workplace
- Which of these activities are related to E-commerce?
a. Online shopping b. Socialising c. Chatting d. Photography
- It refers to a method of banking in which a customer conducts transactions through the Internet.
a. E-commerce b. E-banking c. E-learning d. None of these
- What is the full form of ATM?
a. All Time Money b. Any Time Money
c. Automatic Transaction Machine d. Automated Teller Machine
- Which of the following IT enabled healthcare gadgets is used to monitor heartbeat rate?
a. CAT b. Fitbit c. EEG d. MRI

13. Which of the following is not an equipment used for diagnosis of diseases?
 a. BHIM b. Sphygmomanometer c. EEG d. Glucometer
14. What does CAD stand for?
 a. Computer Aided Department b. Computerised Aixel Design
 c. Computer Aided Design d. None of these
15. initiative of the government has resulted in providing many government services online.
 a. Swatch Bharat b. Digital India c. Literate India d. Online India

B. Fill in the Blanks:

1. Use of IT in business yields in profit and waste.
2. ICT is an acronym for Information and Technology.
3. BPO is often divided into two main types of services and
4. BPM is considered the bridge between information technology and
5. and are social media platforms used for digital marketing.
6. is a popular website for accessing educational videos.
7. LMS is the abbreviation of
8. The use of aids helps students learn faster and easily.
9. is used to determine the approximate concentration of glucose in the blood.
10. IT facilitates which includes marketing, product browsing, shopping, and processing orders.
11. has enabled people to conveniently and quickly conduct their financial transactions online.
12. Use of IT in medical science is also known as

C. State True or False:

1. ITeS services improve the efficiency of an organisation but lead to increase in cost.
2. It makes no difference to the customer whether the call centre is located in his local city or anywhere else in the world.
3. GIC organisations work for their parent organisation and for their external clients as well.
4. Facebook and Twitter are popular search engines.
5. LMS helps to create, organise, and deliver E-learning courses.
6. IT facilitates an effective management at workplace.
7. Technological advancements in the field of medical science have helped in the diagnosis of diseases at the initial stages.
8. Glucometer is a very useful device for diabetic patients to monitor their blood pressure.
9. E-governance has helped in providing public services online so that they reach people easily and effectively.
10. Electronic Voting Machines (EVMs) for elections use voting slips and ballot boxes.

ANSWERS

A. Multiple Choice Questions

1. (b) 2. (d) 3. (b) 4. (d) 5. (d) 6. (c) 7. (a) 8. (b) 9. (a) 10. (b) 11. (d) 12. (b) 13. (a) 14. (c)
15. (b)

B. Fill in the Blanks

1. Maximising, Minimising 2. Communication 3. Back office, Front office 4. Business 5. Facebook, Instagram 6. Khan Academy
7. Learning Management System 8. Audio-Visual 9. Glucometer 10. E-commerce 11. E-banking 12. Health Information Technology (HIT)

C. State True or False

1. (F) 2. (T) 3. (F) 4. (F) 5. (T) 6. (T) 7. (T) 8. (F) 9. (T) 10. (F)

SECTION 2: THEORY QUESTIONS (SOLVED)

1. What is a BPO?

Ans: Business Process Outsourcing(BPO) is a practice of outsourcing a part of a business to another organisation that is an expert in handling such kind of processes. The organisations can be in two entirely different parts of the world. In India, the BPO industry is highly organised and hence various kinds of jobs are outsourced here. BPO is often divided into two main types of services — back office and front office. Back office services include processes, such as billing or purchasing. Front office services pertain to the support provided to its customers, such as marketing and technical support.

2. Briefly explain the role of IT in business today.

Ans: Information Technology refers to the use of computers and other resources to create, store, manage, and exchange all kinds of information. It is an essential and tightly integrated part of every business today.

IT has multiple benefits for a business, such as:

- ✦ Helps to reach more potential customers
- ✦ Provides better service to customers
- ✦ Allows customers to provide feedback to improve the business
- ✦ Reduces costs and improving efficiency

3. What do you understand by BPM?

Ans: BPM stands for Business Process Management. It is a discipline in operations management. It is used as an ongoing process that focuses on developing new processes and improving corporate performance by managing business processes. A combination of methods used to manage a company's business processes is BPM. BPM is considered the bridge between information technology (IT) and business.

4. Why is the BPM service industry doing well in India?

Ans: BPM service industry is doing outstandingly well in India because of the following advantages:

- ✦ Finest and high-quality services are delivered through the state-of-the-art hardware and software. It requires a huge amount of investment to ensure superior grade service delivery.
- ✦ It guarantees flawless and excellent service, by following repeated quality checks.
- ✦ Government of India is also boosting the BPM Industry by providing the required infrastructure and logistical support..

5. How does a call centre work?

Ans: A typical call centre functions as follows:

- ✦ A customer uses a contact number (usually a toll-free number) that is connected to a customer support centre.
- ✦ When a call reaches the call centre, a trained customer service representative answers the customer.

- ✦ To make sure that the highest standards of customer service are delivered, the IT experts create the technology to support the call centre.

6. What is Health Information Technology?

Ans: Health Information Technology (HIT) is the information technology applied to health and health care. It supports health information management across computerised systems and the secure exchange of health information between consumers, providers, payers, and quality monitors.

7. Briefly explain the concept of E-banking.

Ans: E-banking refers to a method of banking in which a customer conducts transactions through the Internet. It has enabled people to conveniently and quickly conduct their financial transactions online. These days, every traditional service that a local bank directly provides is available online. Online banking has facilitated the networking of banks and other financial institutions, resulting in saving time, effort, and money. Transferring money between accounts using IMPS, RTGS, and NEFT, viewing account details, opening fixed deposit accounts as well as making online payments for products and services can be done at a click of the mouse. Withdrawing money at any time through ATMs is also possible because of the use of IT.

8. What do you understand by E-commerce?

Ans: E-commerce refers to the activity of buying or selling of products through the Internet. It allows users to search and compare various products and services, which they can buy at competitive prices. The products are delivered right at their doorstep, thus saving time and money.

9. Explain the concept of E-governance in India.

Ans: Government and Non-Governmental Organisations (NGOs) as well as International Government Agencies use IT applications to communicate and provide various services to the people. This is called as e-governance. Some examples of apps launched by government of India for digital empowerment of Indian citizens are BHIM, Swachh Bharat Abhiyan, and MyGov.

SECTION 3: APPLICATION BASED QUESTIONS - (SOLVED)

1. Mention any three services taken by your family through a BPO.

Ans: 1. Renewal of insurance policy.

2. Filing complaint to power supply board regarding power cut-off.

3. Seeking technical support for washing machine.

2. Ashish is preparing a school project on 'Global Leaders'. How can he use IT for this task?

Ans: Ashish should use a Word Processor Application for preparing his project report. He can use the Internet for searching through various websites and collect information about global leaders.

3. Mention about any two IT driven health diagnostic devices that you have seen at home.

Ans: 1. Glucometer

2. Sphygmomanometer

4. Mention some of the apps launched by the Government of India under e-governance that you or your family members have used.

Ans: 1. BHIM

2. GST Rate Finder

3. MyGov

5. Your uncle and aunt stay in another country. How do you stay connected to them?

Ans: Through e-mail, video calling, or social networking.

SECTION 4: APPLICATION BASED QUESTIONS - (UNSOLVED)

1. Rahul wants to share his birthday pictures with his aunt in the USA. Which apps or platforms can he use?

2. Manisha's mother always visits service centres regarding the problems in her home appliances. Mention any

three services that can be easily resolved using call centres.

3. Rohan's father is a cardiologist who uses different types of machines to diagnose ailments related to heart. Name any two such machines.

SECTION 5: SHORT ANSWER TYPE QUESTIONS - (UNSOLVED)

1. Define ITeS.
2. What is the structure of an IT-BPM industry?
3. Give an example of the use of IT in the following areas:

Service	Example
Online Banking	
E-learning	
Library management	
Hospital management system	

4. What do you understand by LMS?
5. Briefly describe the impact of IT in your everyday life.

SECTION 6: LONG ANSWER TYPE QUESTIONS - (UNSOLVED)

1. What do you understand by the working of a call centre?
2. What is the basic requirement of IT enabled services?
3. How is IT beneficial in the insurance sector? Mention any three factors.
4. Mention the role of E-commerce in your life.
5. Mention various features of E-banking.
6. Discuss the use of information technology in the field of science and engineering.



ACTIVITY ZONE

For Better Concept Clarity

- ✦ Prepare a collage to depict the '**Importance of ITeS in our daily life**'.
- ✦ Prepare a PowerPoint presentation on the topic, '**Importance of IT in Education**'.

GROUP DISCUSSION



- ✦ Discuss few instances when we seek help from a call centre.
- ✦ Talk to a cardiologist and discuss about the machines that are used to diagnose ailments related to heart.
- ✦ Talk to the librarian and try to find out the use of IT in your school library.

Using Data Entry Tools

We all need a medium to communicate our thoughts to others. The primitive way of expressing or communicating our thoughts includes writing, drawing, painting, sketching, dancing, conversing, and much more. But with the advent of the computer system, the medium to communicate has changed tremendously from writing to typing.

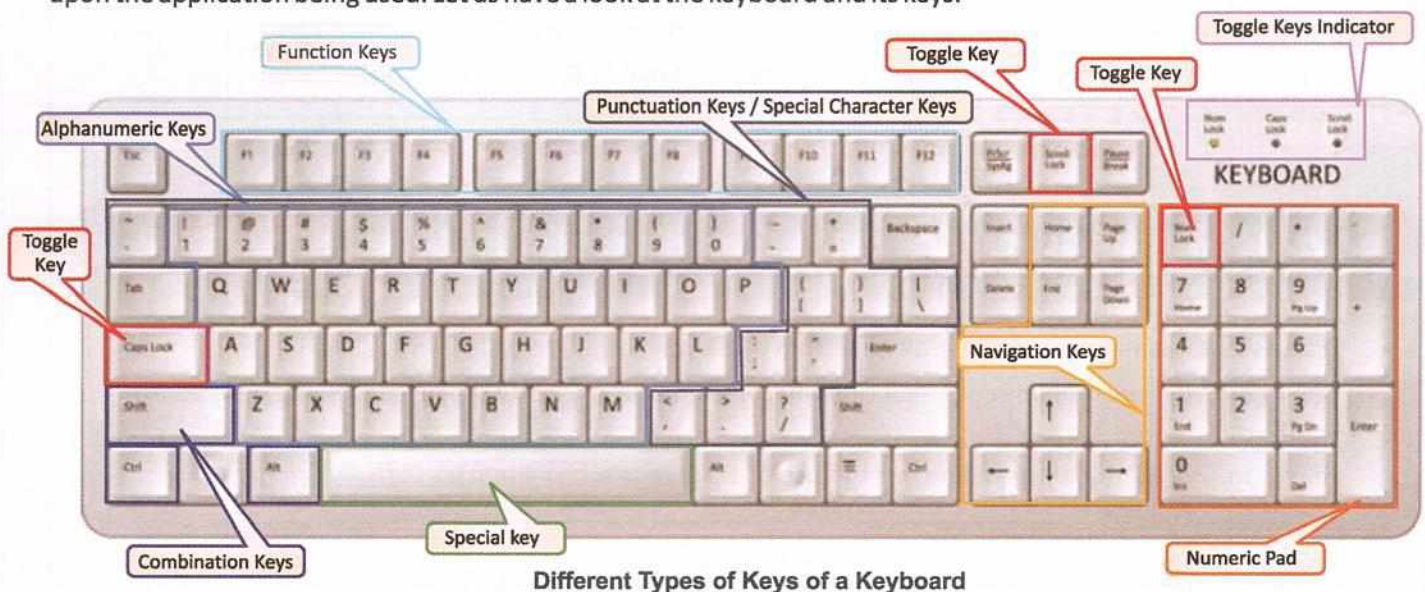
A computer system is a smart machine but lacks its own brain and thus works on the instructions provided to it by the user. These instructions are given through some input device to get the desired result as an output. This process is known as Input-Process-Output (IPO). There are many input devices available in the market such as the mouse, keyboard, touchscreen, light pen, etc., but the most commonly used is the keyboard.

KEYBOARD AND KEYBOARDING SKILLS

Keyboard is the basic input device that is used to enter data by pressing keys. It has different sets of keys for letters, numbers, characters, and functions. QWERTY keyboard is the most commonly used keyboard to enter data. Computer keyboards are similar to electronic typewriter keyboards with some additional keys. A standard keyboard generally has 104 keys. In desktop computer, a keyboard comes separately whereas in a laptop and notebook, it is embedded within the main unit.

Touch typing is a method of typing without the use of the sense of sight, or simply by feeling the keyboard. However, the sense of touch is a little involved since this typing method utilises muscle memory through rigorous training. In this way, a user can type on the keyboard spontaneously by placing his or her hands on the keyboard without looking at any of the keys. It significantly improves the typing speed and eliminates errors. Touch typing simply makes you more productive and it is a skill worth learning.

Learning about the computer keyboard and its layout enables you to use it effectively when you work on any type of computer application. The combinations of keys are used to access, run programs, or used as shortcuts. They depend upon the application being used. Let us have a look at the keyboard and its keys.



Different Types of Keys of a Keyboard

KEYS OF KEYBOARD

Any standard computer keyboard is divided into the following categories:

- ✦ **Alphanumeric Keys:** There are 26 alphabet keys from A to Z. These are not present in the alphabetical order, instead they are placed in such a manner so that a user can work fast. The number keys are placed on the top most row of the alphanumeric keypad.
- ✦ **Numeric Pad:** The numeric keypad consists of number keys from 0 to 9, the arithmetic operators, directional keys, Num Lock, Insert, Delete, Enter, and the decimal point. It is placed on the right side of a keyboard and is used for entering numbers at a faster pace. This keypad is just like a simple calculator. Numeric keypad works in dual mode. Num Lock is provided to switch between the two modes. When Num Lock is ON/enabled (the corresponding LED turns on), you can use the numbers on the keypad. When Num Lock is OFF/disabled, the alternate functions of the keys can be used. Usually, some of the keyboards of laptops do not have a numeric keypad.
- ✦ **Punctuation Keys / Special Character Keys:** All of the keys associated with punctuation, such as the comma (,), period (.), semicolon (;), brackets ([]), parenthesis ({ }), and so on are known as punctuation keys or special character keys. These also include the mathematical operators, such as the plus sign (+), minus sign (-), equal sign (=), etc.
- ✦ **Function Keys:** These keys are used to perform specific tasks. These keys are placed on the top row of the keyboard and are labeled as F1 to F12. These keys have different functions in different programs.
- ✦ **Special Keys:** There are some special keys to provide additional control over a document. Enter/Return, Spacebar, Esc, Print Screen, Pause/Break, Insert, Tab, Delete, Windows, and Menu are some special keys.
- ✦ **Navigation Keys:** The navigation keys are used to navigate through a document. These include the arrow keys, Home, PageUp, PageDown, and End keys.
- ✦ **Combination Keys:** These keys are used in combination with other keys to perform an action. Ctrl, Alt, and Shift are known as combination keys.
- ✦ **Toggle Keys:** They are used to turn computer features ON or OFF. The Caps Lock, Num Lock, and Scroll Lock keys are the toggle keys. Each toggle key has its own LED indicator on the keyboard.

FUNCTIONS OF SOME IMPORTANT KEYS

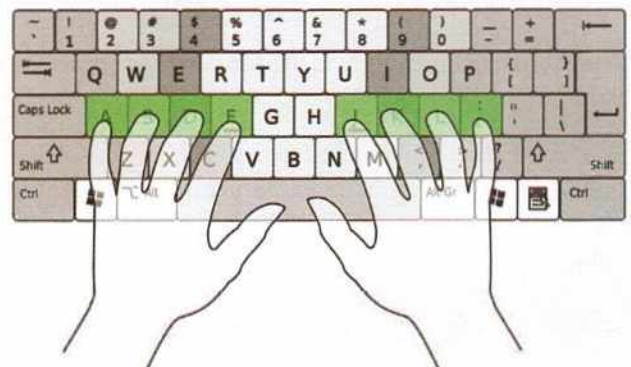
The following table depicts the functions of some important keys on the keyboard.

Key/Symbol	Explanation
Windows	It looks like a four-pane window. It opens the Start menu.
Menu	It looks like a cursor pointing to a menu. It performs the functions, such as right-click to open shortcut menus, etc.
Esc	It is used to interrupt or cancel the current process.
Tab	It is used to give five blank spaces, by default.
Spacebar	It is used to give a space to separate words. It is the longest key on the keyboard.
Backspace ←	It used for removing text on the left side of the cursor.
Delete	Delete key is used for deleting text on the right side of the cursor or deleting an object.
Enter ↵	It is used to send the cursor to the next line or to insert a new line. It is also used to complete a process.
Print Screen	It is used for taking a screenshot of your monitor display.

Pause	It is used to halt an ongoing process.
Break	It enables the user to halt the execution of a running process.
Insert	It is used to switch between overtype mode and overwrite mode.
Home	It returns the cursor to the beginning of a line, document, page or screen.
Page Up	It helps to move one page which is currently viewed.
Page Down	It helps to move one page up or down from the page being currently viewed.
End	It moves the cursor to the end of the line, document, or screen.
Arrow Keys	They are used to move the cursor up, down, left, and right.
Shift	It is used as a keyboard shortcut key in combination with other keys.
Ctrl	It is used as a keyboard shortcut key in combination with other keys.
Alt	It is used as a keyboard shortcut key in combination with other keys.
Num Lock	It enables or disables the numeric keypad.
Scroll Lock	It enables the arrow keys to scroll the contents of a text window instead of moving the cursor.
Caps Lock	It is used to type in uppercase.

HOME ROW KEYS

The home row keys (also called as Home Keys) are the row of keys on the computer keyboard your fingers rest on when not typing. For example, on the standard QWERTY keyboard, the home row keys for your left hand are **A, S, D,** and **F** and your right hand are **J, K, I,** and **;** (semicolon). For both hands, the thumbs rest on the spacebar. By positioning your hands correctly on the home row keys, you can memorise where all other keys on the keyboard are located.



GUIDE KEYS

On a computer keyboard, keys **F** and **J** are called guide keys for left and right hands, respectively. Both contain a small raised tangible mark, with the help of which the touch typist can place the fingers correctly on the home keys.

GUIDE FOR TYPING

The cursor is used as a guide for typing. It is a small vertical line that flickers in the document while typing. To move the position of the cursor, you can use the respective arrow keys or click the mouse where the cursor needs to be positioned.

POSITIONING OF FINGERS ON THE KEYBOARD

The fingers of each hand should sit on four keys each. At rest, the fingers sit on the home row keys. Thumbs hover over the spacebar which can be hit with either hand, depending on the typist's preference. Each finger is responsible for a certain group of keys.

Let us learn about the allocation of keys to fingers. The labelled diagram of the hand shows the names given to each finger of your hand.



Allocation of keys to fingers on the Home Row

KEYS	A	S	D	F	G	H	J	K	L	:
FINGERS	LF	RF	MF	IF	IF	IF	IF	MF	RF	LF

LEFT HAND RIGHT HAND

Allocation of keys to fingers on the Upper Row

KEYS	Q	W	E	R	T	Y	U	I	O	P
FINGERS	LF	RF	MF	IF	IF	IF	IF	MF	RF	LF

LEFT HAND RIGHT HAND

Allocation of keys to fingers on the Bottom Row

KEYS	Shift	Z	X	C	V	B	N	M	,	.
FINGERS	LF	RF	MF	IF	IF	IF	IF	MF	RF	LF

LEFT HAND RIGHT HAND

Allocation of keys to fingers on the Number Row

KEYS	1	2	3	4	5	6	7	8	9	0
FINGERS	LF	RF	MF	IF	IF	IF	IF	MF	RF	LF

LEFT HAND RIGHT HAND

TYPING AND DELETING TEXT

For typing text in a document

- ✦ Place the cursor where you want to type.
- ✦ Press the letters on the keyboard according to the text to be typed.
- ✦ Use the Spacebar key to separate the words.

For deleting text in a document

If you make a mistake while typing, there is a way to rectify it easily. To delete a letter:

- ✦ Place the cursor just after the letter.

- ✦ Press the Backspace key once.
- ✦ Alternatively, place the cursor just before the letter and press the Delete key.
- ✦ For deleting a word or sentence, select the text and press the Delete or Backspace key.

TYPING CAPITAL LETTERS

To type in capital letters or uppercase, switch ON the **Caps Lock** key before typing the text. Switch it OFF to type in small letters or lowercase. One can also press the **Shift** key and simultaneously press the alphabet key which you want to type in uppercase.

TYPING NUMBERS

Numbers are typed using the Number keys present above the Alphabet keys on the keyboard. One can also use the Numeric Keypad to type numbers. Switch ON the Num Lock key and use the Numeric Keypad to type numbers. When the Num Lock key is switched OFF, the Numeric Keypad works for the alternate actions present on it.

TYPING SYMBOLS / PUNCTUATION MARKS / SPECIAL CHARACTERS

Press and hold the **Shift** key and then press the key with the required symbol. For example, press the Shift+ Number 8 key, to type an asterisk (*).

TYPING SENTENCES / PARAGRAPHS

- ✦ Use the Spacebar key to insert space between two words.
- ✦ Press Enter key to begin the next paragraph, create new lines, and add space between paragraphs.

RULES TO LEARN TYPING

Use All Fingers: While learning touch typing, try to use all the ten fingers of both hands and be sure to use the thumbs for the spacebar key.

Proper Positioning: Placing fingers on the correct keys is the key feature of a good typist. Keep your hands, and fingers close to the base position. This improves typing speed and reduces stress on the hands and also helps you to maintain correct posture and avoid health issues.

Typing Exercise or Practice: Typing skills can be improved by typing the exercises provided within the software regularly. Practice of typing will not only increase the speed, but also improve accuracy.

Proper Posture: While typing, it is important for the user to maintain the correct posture as the ideal typing posture minimizes both static and dynamic muscle loads. Correct position of the body helps to make you avoid health complications. The few points mentioned below can help the user to maintain correct posture while typing:

- ✦ Always remember to keep your back straight.
- ✦ Keep your elbows bent at the right angle.
- ✦ Face the screen with your head slightly tilted forward.
- ✦ There should be at least 20-30 inches of distance between your eyes and the screen. In other words, your outstretched arm should barely touch the screen.
- ✦ The optimum height of the tabletop or under-desk keyboard drawer is 28 to 30 inches from the floor.
- ✦ The chair and table height should be chosen so as to expose the shoulder, arm, and wrist muscles to the least possible strain. The wrists can touch the tabletop in front of the keyboard. Never shift even a portion of your body weight to the wrists by resting on them.



Fig. 2.1: Proper Posture



Fig. 2.2: Wrong Posture

POINTING DEVICES

A pointing device is an input device used to point at an object on the computer screen. You can point, select, open, and even drag an item on the screen. The pointing devices are also used to draw and play games on the computer.

The commonly used pointing devices are mouse, trackball, joystick, light pen, touchpad, touchscreen, etc. Among these devices, the mouse is the most popular pointing device.

MOUSE

Mouse is the most commonly used input and pointing device that lets you select and move items on the screen. It usually has two buttons and a scroll wheel. A single-click of the left mouse button is used to select an object while double-clicking on an icon opens the application. The right-click often displays a Context menu that contains list of commands. You can also access 'Property' setting and various other options with the right-click.

You can easily move an item from one location to another by using drag and drop action of the mouse. Mouse is also used in drawing programs to draw free-hand lines, circles, boxes, and other images.



Fig. 2.3: Mouse Buttons

The movement of the cursor on the screen is controlled by the movement of the mouse on the mouse pad. These days, the mouse comes with a scroll wheel on the top to easily scroll up and down.

By default, the mouse is configured to work using the right hand. A left-handed person can change the settings of the mouse accordingly.

MOUSE POINTER

The mouse pointer allows pointing on the screen; it appears as you move it around the screen.

TYPES OF MOUSE

The mouse is of three types:

- ✦ **Mechanical Mouse:** The mechanical mouse has a rolling rubber ball under the case of the mouse. The movement of the pointer is controlled by the ball.
- ✦ **Opto-mechanical Mouse:** It works similar to a mechanical mouse, but uses optical sensors to detect motion of the ball.
- ✦ **Optical Mouse:** The optical mouse uses laser to control the movement of the pointer. It does not have a ball. You can see the light by tilting the mouse.

Let's Know More

Wireless mouse

It is not physically attached to a computer. It uses infrared or radio waves to communicate with the computer. A wireless mouse is more expensive than other types of mouse.

COMMON MOUSE ACTIONS

- ✦ **Click or left-click:** It is used to select an item. Place the mouse pointer on the item to be selected, then press the left mouse button once with your index finger. The desired item gets selected.
- ✦ **Double-click:** It is used to start a program, open a file, or trigger an action. You have to click the left mouse button twice quickly.
- ✦ **Right-click:** It is used to display the Context menu or properties. Move the mouse pointer to the desired position and press the right button of the mouse. The Context menu will open.
- ✦ **Drag and Drop:** It allows you to select and move an item from one location to another. Position the mouse on an object, hold down the left mouse button of the mouse, and drag the object to the position where you want to place it and release the button. You can see the item at a new location.
- ✦ **Scroll:** You can use the scroll wheel on the mouse to move the page up or down instead of using the Page Up and Page Down keys or the Arrow keys.
- ✦ **Selecting/Blocking:** Blocking is another way of selecting text. It is used to select text that needs to be edited or formatted. Click at the beginning of the word or sentence and hold down the left mouse button and drag along the text. The text will be highlighted. At the end of the text release the button.



Answer the Following Questions:

1. What are Home Row keys?
2. Why is it important to maintain a proper posture while working on a computer?
3. What is a pointing device? What is it used for?
4. What is the difference between a mechanical mouse and an optical mouse?



ACTIVITY ZONE

For Better Concept Clarity

Type the following as instructed.

Using your left hand:

Sad deed wed deer red reed read feed café seed see zed wax car race
vase sac dew faq cage rage age face safe sage case was tea tag gate
cat ease zee sea fee gas rave eave

Using your right hand:

the be to of and a in that have I it for not on
with he as you do at this but his by from they
we say her she or an will my one all would
there their what so up out if about who

Using both your hands:

Mji lop mnk ujo jhp lopk ljuop mjnk ulphn l;po jki;

Getting Started with Typing Software

With the advent of a computer in education, it has become utmost important for students to learn and master the typing skills. Typing involves the use of correct finger placement to build speed for optimal typing accuracy. So, it is recommended that all students begin to learn correct placement of fingers on the keyboard as soon as they begin to use the computer. This helps them to master typing skills. When students develop typing proficiency, it helps them to improve their writing skills.

TOUCH TYPING

You have already learnt about touch typing in the previous chapter. Touch typing is a method of typing without the use of the sense of sight, or simply by feeling the keyboard. However, the sense of touch is a little involved since this typing method utilizes muscle memory through rigorous training. This way, a user can type spontaneously by placing his or her hands on the keyboard and does not have to look at any of the keys.

BENEFITS OF TOUCH TYPING

Touch typing is a wonderful technique which provides a variety of customized exercises that help you to improve your professional keyboard skills in a step-by-step way. Some of them are listed below:

Speed: One of the most attractive reasons to learn the touch typing skill is the significant increase in speed and efficiency. Touch typing is certain to offer the most productive method for working on the wide-ranging data-entry projects.

Accuracy: The second most important benefit of learning touch typing comes with typing correctly and with accuracy. If you are typing with good speed but are not typing accurately, no one would understand what you are trying to convey.

Time: Another benefit of touch typing is accomplishing the work within a given time frame. The more the typing speed is, the less will be the time taken to type and accomplish the task.

Focus: When you type with two fingers, the focus gets diverted between finding the keys on the keyboard and the work you are doing on the computer system. Learning touch typing allows you to focus on one thing instead of two and thus increases the productivity.

REQUIREMENT OF TOUCH TYPING

To achieve maximum benefit from touch typing, you are required to install the following:

Hardware: A computer system with physical keyboard, mouse, and speakers.

Operating System Software: Windows XP, Windows 7, Windows 8, or Windows 10.

Application Software: RapidTyping Software 5.2.

RAPIDTYPING SOFTWARE

RapidTyping Tutor is designed to teach adults and kids to use their computer keyboard more efficiently than ever. It basically helps them to learn the typing skills and check their typing speed progress.

With its quick training sessions along with tailor-made exercises, RapidTyping helps the user to sharpen up his skills and overcome his problem areas in a short time with persistent efforts.

RapidTyping provides various courses according to the difficulty level, which are:

S. No.	Course	Description
1.	Introduction	The Introduction course covers all characters typed on your keyboard.
2.	Beginner	Beginner course helps the user to learn the position of the keys on the keyboard. After completing this course, you will know which finger to use to hit each key without looking at the keyboard. The course covers usage of the uppercase letters, special symbols and Numeric Pad.
3.	Experienced	The Experienced course will help the user to improve the typing speed by memorizing the frequently used syllables and words.
4.	Advanced	The Advanced course helps the users to improve their typing skills acquired by typing an actual text.
5.	Testing	This course helps the user to measure his current typing speed and accuracy with advanced typing tests. One can even take a printout of his typing skills report.

STARTING RAPIDTYPING SOFTWARE

Once you have downloaded the software, you can open the RapidTyping software by performing the following steps:

Windows 7	Windows 10
<ul style="list-style-type: none">Click on the Start button.Select All Programs.Choose RapidTyping 5.A submenu will appear. Select the RapidTyping 5 option.	<ul style="list-style-type: none">Click on the Start button.Type RapidTyping in the Search bar and press the Enter key.Select RapidTyping 5 and press Enter to launch it.

The RapidTyping software opens on the desktop screen.

GETTING FAMILIAR WITH RAPIDTYPING INTERFACE

The main window of RapidTyping consists of the following components:

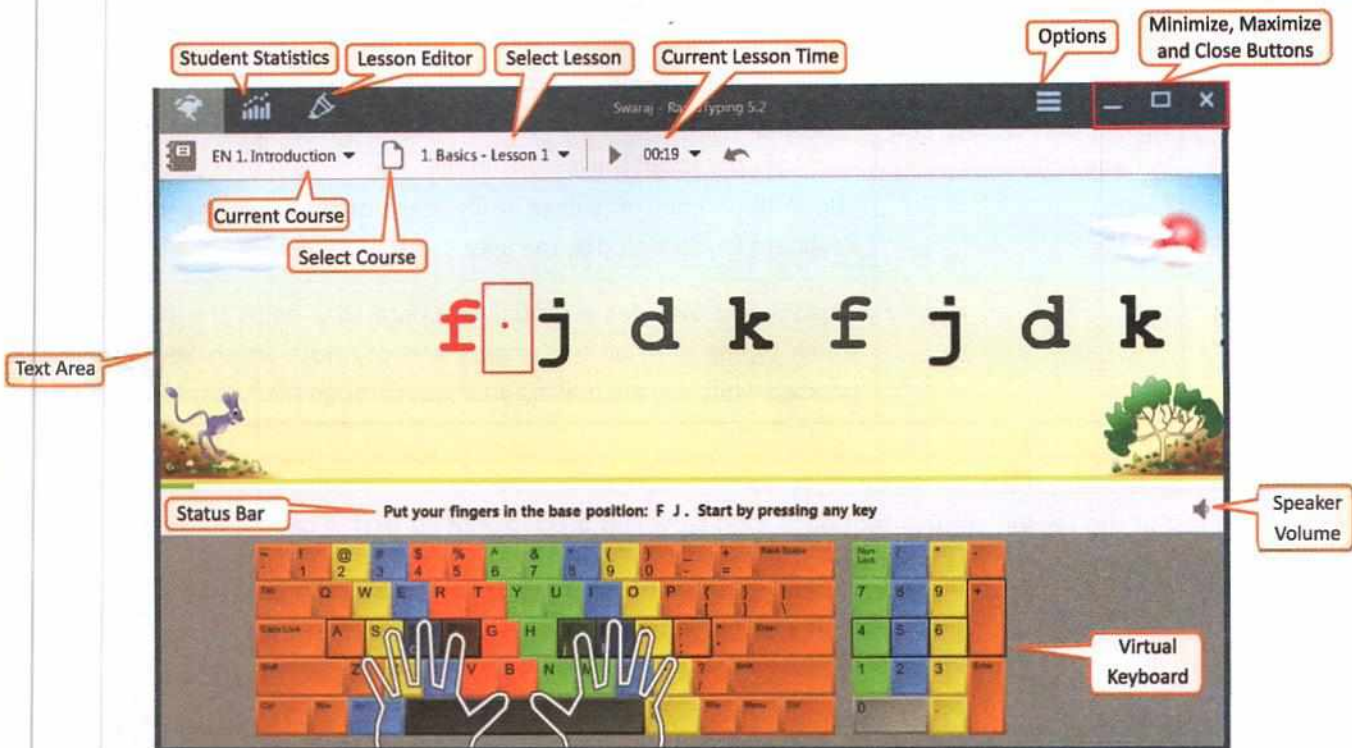


Fig 3.1: Interface of RapidTyping Software

Let us discuss some of the components in detail.

Toolbar	Commands	Description
Title Bar	Program Modes, Option button, and three control buttons	<p>The three buttons — Current Lesson, Student Statistics, and Lesson present on the top-left corner, help you switch between three program modes. To check the current lesson, click on the Current Lesson button. To check the statistics of the student's typing skills, click on the Student Statistics and to edit the lesson settings, click on the Lesson editor.</p> <p>The Option button is present on the top-right corner of the Title bar, which helps the user to change settings such as language, background, and text colour, themes, sound, font, help, update, and logout of the RapidTyping software.</p> <p>The three control buttons, present on the extreme right corner of the RapidTyping window are: Minimize, Maximize, and Close.</p>
Toolbar	Current Course, Current Lesson Control	<p>The Toolbar helps the user to select the current course options like Introduction, Beginner, Experienced, Advance, or Testing Modes.</p> <p>Lesson control section includes several controls to pause/resume the current lesson, go back to the beginning and check the current speed, accuracy, remaining time, elapsed lesson time in real time.</p>
Text Area		The Text Area is a place where the text that is to be typed by the user, is displayed.

Status Bar	Tips, Progress bar, and Volume control	<p>The Status Bar present in the bottom of the Text Area provides tips/instructions for the user to follow while typing.</p> <p>The Progress bar contains the Lesson Length and Metronome to help the user to know about the lesson details.</p> <p>The Volume control is used to increase or decrease the sound of the keyboard keys pressed by the user.</p>
Virtual Keyboard		<p>RapidTyping includes a virtual keyboard that helps the user to learn touch typing with all ten fingers and prompts which keys are to be pressed while you are making your way through the typing lessons.</p>


NOTE

You can also install the Lesson control tool on a local server in a classroom so that it can be easily run on each workstation via network.

|| USING THE RAPIDTYPING APPLICATION

Once you have successfully configured the required settings in RapidTyping software, the main window of the program appears.

To start practising on the RapidTyping software, follow the steps as provided below:

- To start your first lesson, click on the **Current lesson**  tab. You can select the course and lesson on the Toolbar. There are two drop-down lists on the left side.

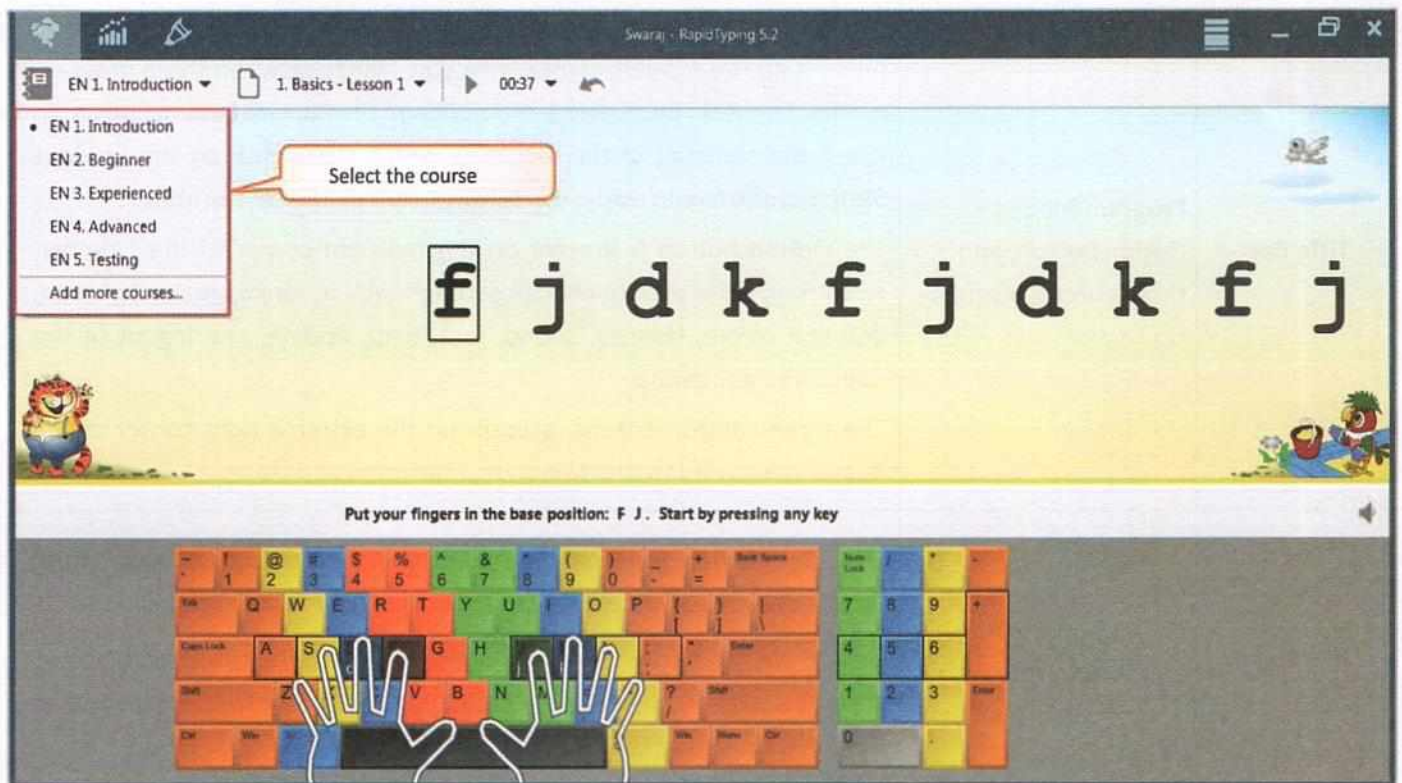


Fig 3.2: Choosing Course

- Choose the lesson you would like to work on.

Lessons are categorised by the types. For example, Introduction and Beginner courses have: Basics, Shift keys, Digits keys, and Numeric pad sections.

To begin with, first select the course, **Introduction** and then select the lesson.

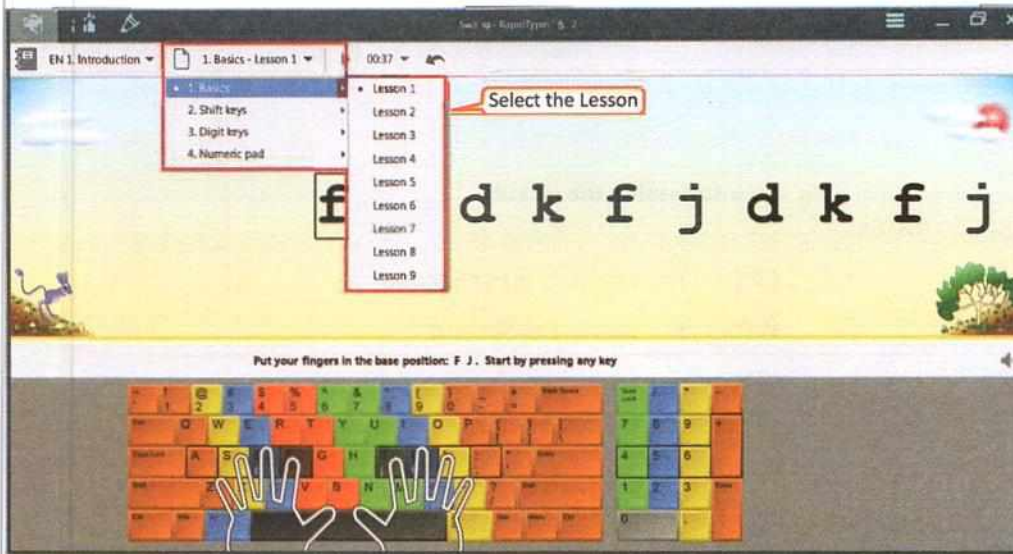


Fig 3.3: Choosing Lesson

- Place your fingers on the virtual keyboard as shown in the figure and start typing. Now, type the text or alphabet which are displayed on the Text Area of the RapidTyping Software window from the keyboard.

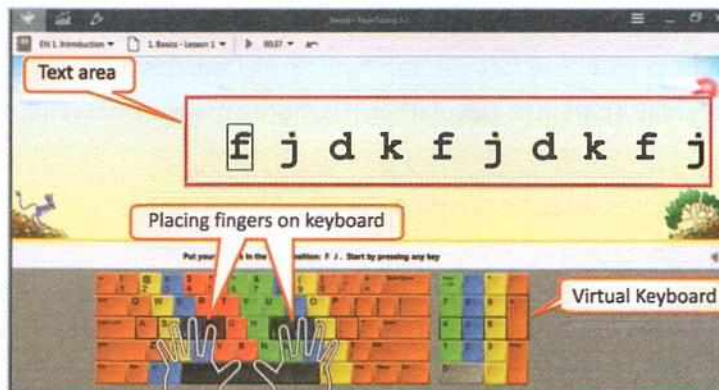


Fig 3.4: Placing Fingers on Virtual Keyboard

- While you are typing, the **Current lesson time** button on the toolbar displays the current lesson time. If you would like to stop the typing in between you can press the **Pause the lesson** button present on the toolbar. You can choose to restart the lesson again either by pressing the **F8** key or the **Restart the lesson** button from the toolbar.
- The Status bar will show you the instructions along with the two progress bars. The green progress bar displays the percentage of the completion for the current lesson and yellow progress bar reflects the acceptable time for typing a single character.

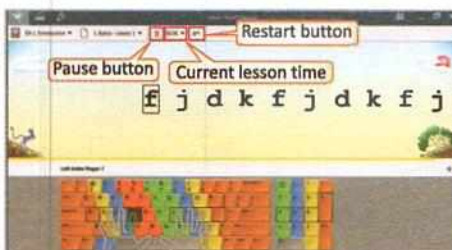


Fig 3.5: Time and Pause Option on the Toolbar

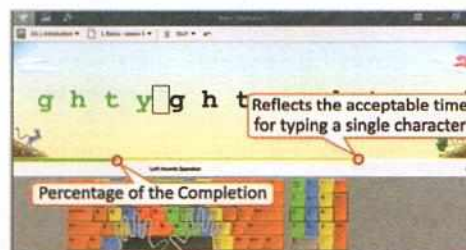


Fig 3.6: Progress Bar

Let's Know More

Computer ergonomics is the science of refining the design of products to optimise the workspace "fit" between each worker and his or her work environment. This helps in increasing performance and reducing the risk of strain injuries.

Know the Fact

WPM stands for Words Per Minute, which is the number of words that you can type in 1 minute.

Let's Know More

QWERTY



Qwerty is the most commonly used computer keyboard. It was designed by Sholes and Glidden and sold to Remington in 1873. Its layout was based on the typewriter.

DVORAK



The Dvorak keyboard, named after its inventor, Dr. August Dvorak, was designed with the goal of maximizing typing efficiency. It had a unique layout that required less finger motion. This helped in reducing errors compared to the Qwerty Keyboard.

Once, you have completed the lesson, the result window will appear to analyze and display your progress report.

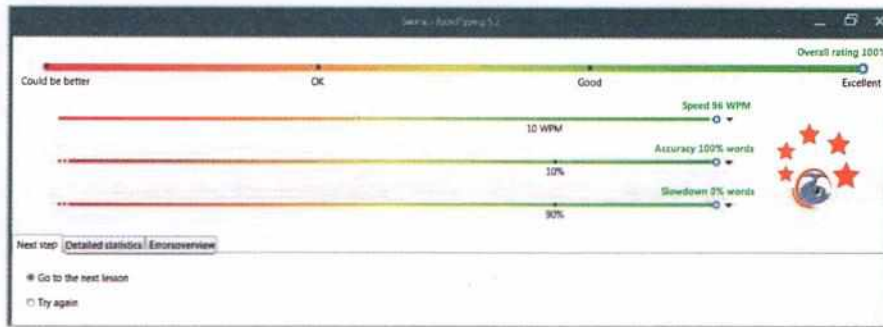


Fig 3.7: Interpreting the Result

TYPING MEASUREMENTS OF SPEED RATES

- CPM** : Characters Per Minute
- CPS** : Characters Per Second
- WPM** : Words Per Minute
- WPS** : Words Per Second
- KPM** : Keystrokes Per Minute
- KPS** : Keystrokes Per Second

TYPING SPEED

The typing speed of an operator is calculated in the form of **Gross Speed** and **Net Speed**.

- Gross, or Raw speed is a calculation of exactly how fast you type with no error penalties. The Gross typing speed is calculated by taking all words typed and dividing it by the time it took to type the words.
- Net speed is a calculation of exactly how fast you can type error-free. It is arguably the most useful tool in gauging typing abilities. Since errors play a part in its calculation, it is more a measure of typing productivity than of just typing speed.

Typing speed can be calculated in three ways, by counting

1. Words Per Minute (WPM)
2. Characters Per Minute (CPM)
3. Keystrokes Per Minute (KPM)

The following table lists the various formulas to calculate the Typing Speed with example:

In Terms of	Typing Speed		Example		
	Gross Speed	Net Speed	Supposition	Gross Speed	Net Speed
Words	WPM = (Words without errors + Words with errors) / Time spent in minutes	Net WPM = WPM – (words with errors / Time spent in minutes)	A person typed 50 words per 2 mins. with errors in 6 words.	Gross Speed = 50/2 =>25 wpm	Net Speed = 25 - (6/2) => 22 wpm
Characters	CPM = (Characters without errors + Characters with errors) / Time spent in minutes	Net CPM = CPM – (characters with errors / Time spent in minutes)	A person typed 250 characters per 2 mins. with errors in 30 characters.	Gross Speed = 250/2 =>125 cpm	Net Speed = 125 - (30/2) => 110 cpm
Keystrokes	KPM = (Keystrokes without errors + Keystrokes with errors) / Time spent in minutes	Net KPM = KPM – (keystrokes with errors / Time spent in minutes)	A person typed 200 keystrokes per 2 mins. with errors in 40 keystrokes.	Gross Speed = 200/2 =>100 kpm	Net Speed = 100 - (40/2) => 80 kpm

TYPING ACCURACY

Accuracy in typing means that you type the words accurately and correctly. Typing accuracy is defined as the percentage of correct entries out of the total entries typed. So, if you typed 90 out of 100 characters correctly, you typed with 90% accuracy.

The following table lists the various formulas to calculate the Typing Accuracy percentage with example:

In Terms of	Typing Accuracy	Example	
		Supposition	Net Speed
Words	Accuracy % = $100\% - ((\text{words with errors} \times 100\%) / \text{Total number of words})$	A person typed 50 words per 2 mins. with errors in 6 words.	Accuracy = $100 - ((6 * 100) / 50)$ => 88%
Characters	Accuracy % = $100\% - ((\text{characters with errors} * 100\%) / \text{Total number of characters})$	A person typed 250 characters per 2 mins. with errors in 30 characters.	Accuracy = $100 - ((30 * 100) / 250)$ => 88%
Keystrokes	Accuracy % = $100\% - ((\text{keystrokes with errors} * 100\%) / \text{Total number of keystrokes})$	A person typed 200 keystrokes per 2 mins. with errors in 40 keystrokes.	Accuracy = $100 - ((40 * 100) / 200)$ => 80%

TYPING ERROR

Error in typing means that you type the words incorrectly. Typing inaccuracy is the percentage of wrong entries out of the total entries typed. So, if you typed 10 out of 100 characters incorrectly, you typed with 10% inaccuracy.

The following table lists the various formulas to calculate the Typing Error percentage with example:

In Terms of	Typing Error	Example	
		Supposition	Net Speed
Words	Error % = $(\text{words with errors} * 100\%) / \text{Total number of words}$	A person typed 50 words per 2 mins. with errors in 6 words.	Error = $(6 * 100) / 50$ => 12%
Characters	Error % = $(\text{characters with errors} * 100\%) / \text{Total number of characters}$	A person typed 250 characters per 2 mins. with errors in 30 characters.	Error = $(30 * 100) / 250$ => 12%
Keystrokes	Error % = $(\text{keystrokes with errors} * 100\%) / \text{Total number of keystrokes}$	A person typed 200 keystrokes per 2 mins. with errors in 40 keystrokes.	Error = $(40 * 100) / 200$ => 20%

TYPING RHYTHM

This methodology correlates the manner and rhythm in which an individual presses and releases keys on a keyboard. For a proper typing rhythm, the keystrokes should come at equal intervals. Slowdown indicator is used to control the constant typing rhythm. The following table lists the various formulas to calculate the Slowdown percentage:

In Terms of	Slowdown Formula	Example	
		Supposition	Slowdown
Words	$\text{Slowdown \%} = (\text{words with delay} * 100\%) / \text{Total number of words}$	A person typed 60 words per 2 mins. with delay in 12 words.	$\text{Slowdown} = (12 * 100) / 60$ =>20%
Characters	$\text{Slowdown \%} = (\text{characters with delay} * 100\%) / \text{Total number of characters}$	A person typed 250 characters per 2 mins. with delay in 20 characters.	$\text{Slowdown} = (20 * 100) / 250$ =>8%
Keystrokes	$\text{Slowdown \%} = (\text{keystrokes with delay} * 100\%) / \text{Total number of keystrokes}$	A person typed 200 keystrokes per 2 mins. with delay in 16 keystrokes.	$\text{Slowdown} = (16 * 100) / 200$ => 8%



ACTIVITY ZONE

For Better Concept Clarity

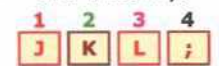
1. **Keyboard Activity:** As you progress through the typing lessons, you will learn the correct finger position for all keys. Look at the figure and place your fingers in the same manner.



Place your left hand over these keys



Place your right hand over these keys



red deer; feed freddie; red fire; free feed; fried deer;

eddie died; free ride; eddie fired fred; did eddie die;

edifier rider dude freed red fur deer; kidder eddie rudder fed red deer;

freed fed red deer died; fred fuji fried freed fed red deer;

duke jeered rude referee jed; did irked kirk fire rude jerk;

2. Abhay was preparing his science lesson on Wordpad. He typed 120 words in 6 minutes and made mistakes in 6 words. Calculate the following for Abhay:
- Gross and Net typing speed .
 - Accuracy percentage.
 - Error percentage.

INTERPRETING THE RESULT

Interpreting the result on the completion of a course is an important task as it helps to know your overall performance.

Each time you complete a lesson, the **Results** window displays your achievements.

The Results window is divided into two parts: **Rating Pane** and Three tabs: **Next step**, **Detailed statistics**, and **Errors overview**. It tracks your progress, and allows you to evaluate your own performance at any time.

The statistics shown in Figure reflect your typing speed, accuracy, and slowdown keystrokes, complete with a summary at the end of each lesson.

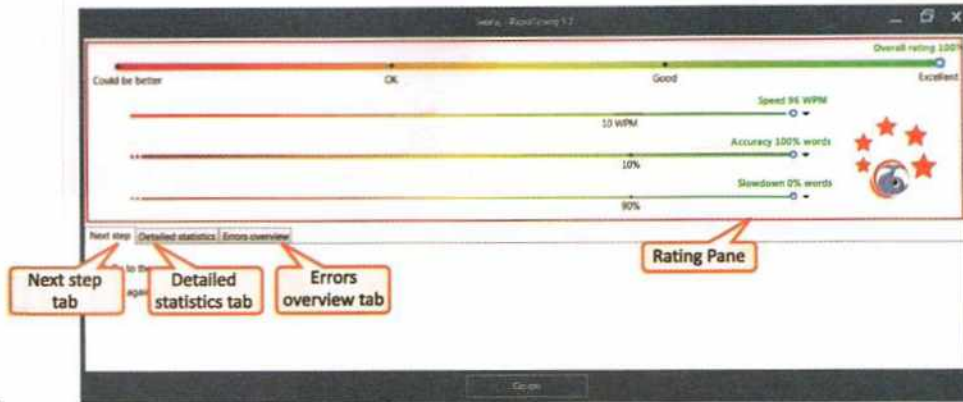


Fig 3.8: Interpreting the Result

NEXT STEP

By clicking on the **Next step** tab, you can go to the next lesson if speed, accuracy, and time-out are performed well or start the current lesson again to achieve a better score next time.

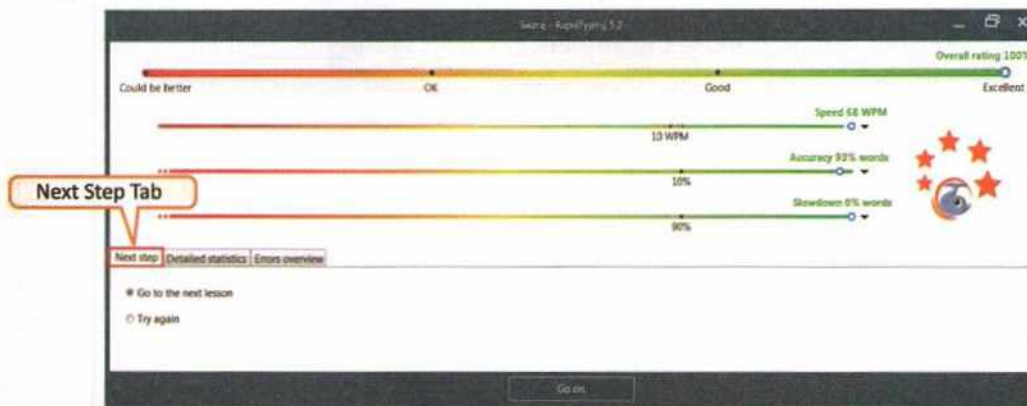


Fig 3.9: Next Step Tab

DETAILED STATISTICS

The Detailed statistics screen shows the lesson statistics, which displays the details like typing speed, errors, and slowdown for each character/keystroke. In the text area, you can check the mistakes you made, in different colours. The colour indication is as follows:

The green dashed line, shown above depicts the good result. The bad result is depicted in red colour and yellow colour depicts the time frame which was exceeded by the user. The orange colour depicts the incorrect character and time for typing a character which has been exceeded by the user.

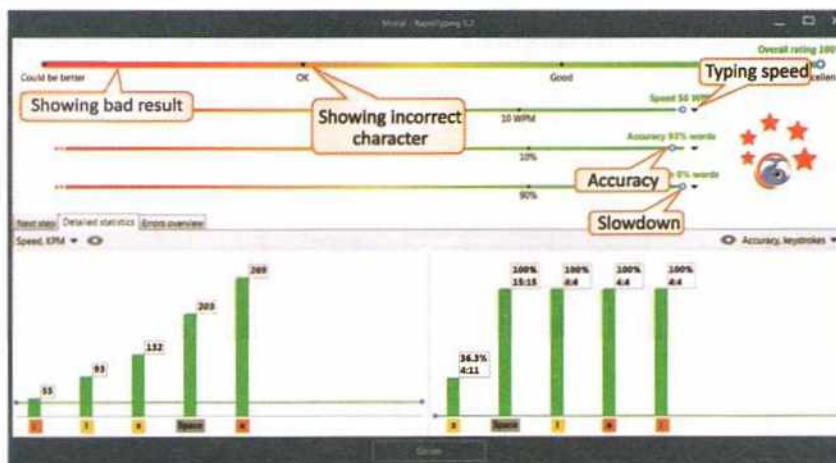


Fig 3.10: Displaying the Detailed Statistics

ERRORS OVERVIEW

On clicking the third tab, in the text area, you can check the errors that occurred during the lesson.

Clicking on the **Go on** tab at the bottom of the window, transfers the control to the new lesson.

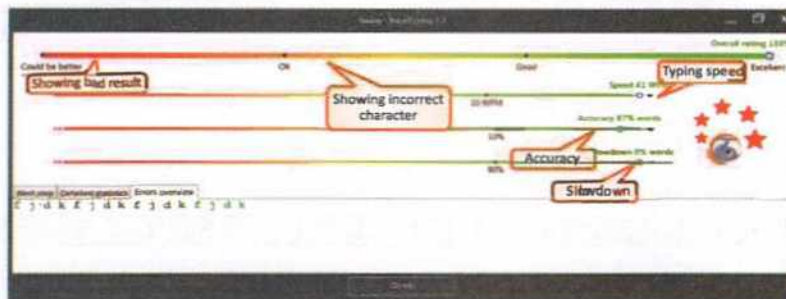


Fig 3.11: Displaying the Errors Overview

ANALYZE STUDENT STATISTICS IN RAPID TYPING SOFTWARE

This feature describes how to add students or student groups and preview their statistics.

To open the Student statistics section, choose the **Student statistics** tab present on the top-left corner of the main window. The Student statistics screen will open. This window is composed of the following controls:

- ✦ Students Accounts/Groups
- ✦ Statistics Panel/Session Statistics

Student Account Windows: The Student accounts area consist of three part:

- ✦ **Students Toolbar:** This area is for adding, removing, inserting (import) and, saving the existing student accounts and groups and downloading the statistics of the student in a variety of formats, such as PDF, HTML, and CSV.
- ✦ **Students Accounts:** It is the area for selecting the current student account or group.
- ✦ **Property Panel:** It is the area where you can edit a group or student properties of the selected items in the Navigation Tree.

Statistics Panel: This area consists of the following parts:

- ✦ **Statistics Toolbar:** Statistics toolbar has buttons for choosing courses, removing the selected statistics, and customizing the statistics display options.
- ✦ **Course Diagram/Statistics:** It shows the common statistics for all lessons of the current course.
- ✦ **Lesson Diagrams/Statistics:** It shows the statistics for each character or keystroke of the selected lesson in the course diagram.
- ✦ **Lesson Statistics Table:** It shows the full statistics of the selected lesson in the course diagram.



Fig 3.12: Student Statistics Screen

BEGINING WITH A LESSON EDITOR

Lesson Editor offers flexibility to the users to make all the lessons fully customized. You can add, insert, change, and delete lessons, group them in courses, and review the corresponding metrics. You can import an existing lesson from the RapidTyping software in Text and RTF (Rich Text Format) file format and export lessons in the Text format.

USING THE LESSON EDITOR

To open Lesson Editor, click on the **Lesson editor** tab present in the top-left corner of the Main window. The screen will appear as shown in the picture.

Use the command buttons to create, Add New Course, Modify Existing Courses and Deleting a Course/Lesson.

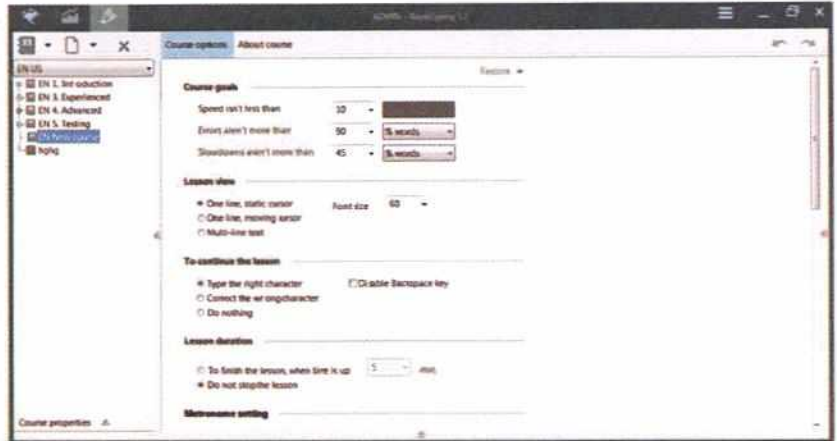


Fig 3.13: Lesson Editor Window

INTERFACE OF THE LESSON EDITOR

Course and Lesson List

- ✦ **Title bar:** It displays the Lesson Editor tab button along with the title and the control buttons.
- ✦ **Toolbar:** It contains commands for adding, removing, inserting, and saving the existing Lessons and Courses.
- ✦ **Navigation Tree:** It shows a list of the current keyboard layout chosen, current course, section, and lesson.
- ✦ **Properties:** It is the area which lets you modify the course, section, and properties of the current lesson such as the Lesson name along with section.

Editing Panel is the area where you can make changes in the existing course options or text of the selected lesson in the Navigation Tree. For example, if you want to create a lesson for the Numeric pad and change the lesson type in the **Lesson type** menu on the Toolbar.

If a long text is inserted into the lesson from a file, you can split such a lesson into many smaller lessons using a **Split lesson** dialog box.

Table Analysis text displays the number and percentage of words, characters, spaces, and specific characters in the lesson.

Virtual Keyboard gives constant feedback, showing you which fingers and keys to press, to keep you from looking down at your hands while typing and highlights the characters used in the selected lesson.

Tip You can easily hide/show:

- ✦ The Course and lesson list by pressing the **Ctrl+K** shortcut keys.
- ✦ Properties by pressing the **Ctrl+L** shortcut keys.
- ✦ The Virtual keyboard by pressing the **F9** shortcut key.


CREATING A NEW LESSON PLAN

To create a new lesson of your choice, use the following steps:

- ✦ Click on the **Lesson menu** option from RapidTyping Toolbar.

- ✦ Now select the course level in which you want to add a new lesson.
- ✦ In the next step, you can either choose **Create new lesson** option from the **Lesson menu** or right-click on any course level and select the **Create new lesson** option from the pop up menu that appears.
- ✦ Now, give a suitable name and title in the given box.

DELETING A LESSON

- ✦ The user can remove the lesson from the RapidTyping software by selecting it in the Navigation Tree and click on the **Delete** button  on the Toolbar or by simply pressing the **Delete** key on the keyboard.

CREATING A NEW COURSE

We can add and delete a course in RapidTyping software through the following steps:

- ✦ Select the **Lesson editor** option present on **Title bar** or Press **(Ctrl+3)**.
- ✦ Click on the **Course menu** button located on the Toolbar. A drop-down menu will appear.
- ✦ Now, select the **Create new course** option. You will notice that a new course has been added in the **Navigation Tree**.
- ✦ Type a name and title of your course and press **Enter**.

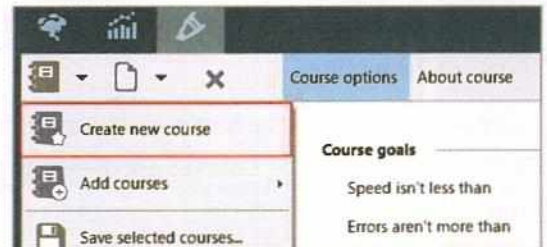


Fig 3.14: Creating a New Course

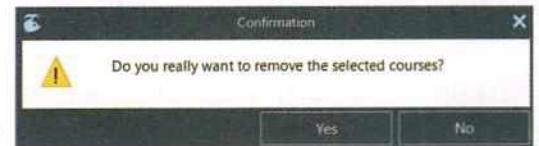



Fig 3.15: Remove the Selected Courses

To delete the newly created course, select the course and click on the **delete**  button.



Answer the Following Questions:

1. Mention any two advantages of touch typing.
2. What is computer ergonomics?
3. What is the difference between gross typing speed and net typing speed?
4. Define typing accuracy with an example.





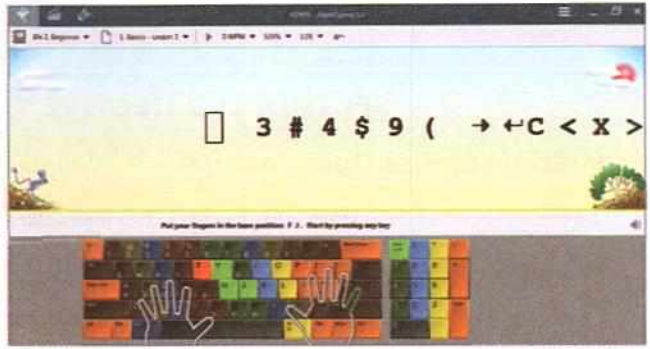
ACTIVITY ZONE

For Better Concept Clarity

Instructions:

- ✦ Click on the **Lesson editor** icon and choose the **Course options** from the **Toolbar**.
- ✦ Under **Lesson editor** Tab, select the Course Level (such as, Introduction, Beginners, etc.,) and then choose its sub category (Basic, Shift keys, etc.,) that you require.
- ✦ Let us say, we have selected the **Shift keys** course. Now, double-click on this sub category course and select the Lesson from its drop-down list. The selected lesson appears on the right pane. Now, make the required changes in it by inserting your choice of patterns/words/sentences.

- ✦ Now, right-click on the selected lesson and choose the **Save selected lessons** option from the pop-up menu. The **Save As** dialog box will appear. Specify the name and click on the **Save** button.
- ✦ Click on the **Current Lesson** tab  on the **Title** bar.
- ✦ You will notice the same set of patterns on the RapidTyping screen, which you have saved in the selected lesson.
- ✦ At last click on the **Student statistics** tab  to measure your overall performance, i.e., speed, accuracy, keystrokes, time spent, words typed, etc.



Recap



- ✦ Keyboard is the basic input device that has different sets of keys for letters, numbers, characters, and functions. QWERTY is the most commonly used keyboard.
- ✦ A, S, D, and F for your left hand, and J, K, I, and ; for your right hand are Home Row keys.
- ✦ 'F' and 'J' are called guide keys for left and right hands.
- ✦ Some commonly used pointing devices are mouse, trackball, joystick, light pen, touchpad, touchscreen, etc.
- ✦ Mouse is the most commonly used input and pointing device that lets you select and move items on the screen.
- ✦ Touch Typing is a method of typing without looking at the keys.
- ✦ Touch Typing software is useful to increase the typing speed and accuracy.
- ✦ Touch typing enables one to focus on work and not on typing.
- ✦ RapidTyping software is a keyboard trainer, used for improving the typing skills.
- ✦ The Introduction and the Beginners courses help to learn the proper position of keys on the keyboard.
- ✦ The Experienced course improves typing by making a user memorize the commonly used words and syllables.
- ✦ The user types an actual text in the Advanced course in order to improve typing.
- ✦ Testing course is used to test the user's typing skills.
- ✦ The Title bar of the RapidTyping software contains Program modes, Option button, and Control buttons.
- ✦ Current course and current lesson controls are found on the toolbar.
- ✦ Text area is a place where the user can type the text.
- ✦ Tips, Progress bar, and Volume control is present on the Status bar.
- ✦ The virtual keyboard of the RapidTyping software supports all types of keyboards.
- ✦ Proper posture must be maintained while typing.
- ✦ The Detailed statistics screen shows the typing speed and errors.
- ✦ The green dashed line shows the good result and the red line shows the bad result.



SECTION 1: OBJECTIVE TYPE QUESTIONS-(SOLVED)

A. Multiple Choice Questions:

- Each key has its own LED indicator on the keyboard.
a. Toggle b. Function c. Combination d. Numeric
- One can easily move an item from one location to another by using action.
a. Double-click b. Click c. Drag and drop d. Right-click
- There should be at least inches of distance between your eyes and the screen.
a. 5-10 b. 20-30 c. 0-5 d. 50-60
- While touch typing, make use of fingers.
a. 10 b. 5 c. 4 d. 2
- While typing, keep your elbows at
a. Left angle b. Right angle c. Straight d. Curved
- is not a part of the Title bar.
a. Program Mode b. Option Button c. Control Buttons d. Tips
- The third level of the RapidTyping software is the level.
a. Experienced b. Beginner c. Advanced d. Testing
- While typing, the toolbar displays buttons.
a. Reset b. Pause c. Continue d. Restart
- is the area where you can make changes in the existing course options or text of the selected lesson in the Navigation Tree.
a. Properties b. Editing Panel c. Table Analysis Text d. None of these
- The Students statistics cannot be downloaded in the format.
a. PDF b. CSV c. XML d. HTML
- Statistics toolbar has buttons for
a. Choosing courses b. Removing statistics
c. Customizing statistics displays d. All of these
- Commands for adding lessons are present in the
a. Toolbar b. Navigation Panel c. Title Bar d. Text Panel
- Control buttons are present in the
a. Navigation Panel b. Toolbar c. Text Panel d. Title Bar

B. Fill in the Blanks:

- is the longest key on the keyboard.
- 'F' and 'J' are called as keys.

3. Mouse, trackball, joystick, light pen, touchpad, touchscreen are various types of devices.
4. The selected lessons can be edited in the
5. The buttons can be used to create and add new courses.
6. The bad result is depicted by the colour.
7. The panels in the Lesson editor are text and
8. The dashed lines colour in the Statistics screen is
9. The Statistics panel has parts.
10. The Status bar in the RapidTyping software has progress bars.
11. In RapidTyping software, once the lesson is completed, the window will appear.
12. The course helps users to test the touch typing skills.
13. RapidTyping includes a keyboard.

C. State True or False:

1. Touch typing is a method of typing without the use of the sense of feel.
2. Print Screen is used for taking a screenshot of your monitor display.
3. The scroll wheel present on top of a mouse helps to easily scroll up and down.
4. Typing speed by memorizing is improved in the Experienced course.
5. The window which appears after the lesson completion in RapidTyping is called the Output window.
6. While typing in RapidTyping lesson, the toolbar displays the accuracy also.
7. The green progress bar displays completion of the current lesson in RapidTyping.
8. The Students Toolbar is used to select the current student account or group.
9. You can restart the lesson by using the F8 key.
10. Only course diagrams and statistics are available in the Statistics panel.
11. Deletion of the selected lessons option is available in the Navigation pane.
12. In the Detailed statistics screen, the green dashed line shows a good result.
13. The Title bar in the RapidTyping software has three command buttons.

ANSWERS

A. Multiple Choice Questions												
1. (a)	2. (c)	3. (b)	4. (a)	5. (b)	6. (d)	7. (a)	8. (b)	9. (b)	10. (c)	11. (d)	12. (a)	13. (d)
B. Fill in the Blanks												
1. Spacebar	2. Guide	3. Pointing	4. Text Panel	5. Command	6. Red	7. Navigation	8. Green					
9. Three	10. Two	11. Result	12. Testing	13. Virtual								
C. State True or False												
1. (F)	2. (T)	3. (T)	4. (T)	5. (F)	6. (T)	7. (T)	8. (F)	9. (T)	10. (F)	11. (T)	12. (T)	13. (T)

SECTION 2: THEORY QUESTIONS-(SOLVED)

1. What is a pointing device?

Ans. A pointing device is an input device used to point at an object on the computer screen. You can point, select, open, and even drag an item on the screen. The pointing devices are also used to draw and play games on the computer. The commonly used pointing devices are mouse, trackball, joystick, light pen, touchpad, touchscreen, etc.

2. What is the use of numeric keypad on your keyboard?

Ans: Numeric Keypad resembles the display of a calculator. Switch ON the Num Lock key and use the Numeric Keypad to type numbers. When the Num Lock key is switched OFF, the Numeric Keypad works for the alternate actions present on it.

3. What do you understand by the term Toggle keys?

Ans: Toggle keys are used to turn computer features ON or OFF. The Caps Lock, Num Lock, and Scroll Lock keys are the toggle keys. Each toggle key has its own LED indicator on the keyboard.

4. What is the use of the Option button of the Title bar of the RapidTyping software?

Ans: The Option button is present on the top-right corner of the Title bar which helps the user to change settings such as language, background, and text colour, themes, sound, font, help, update, and logout of the RapidTyping software.

5. What does the yellow colour depict in the Detailed statistics screen?

Ans: Yellow colour depicts the time frame which was exceeded by the user.

6. What are the current courses that the toolbar helps you to select in RapidTyping software?

Ans: The Toolbar helps a user to select the current course like Introduction, Beginner, Experienced, Advance, or Testing Modes.

7. What can be done in the text panel of the lesson editor?

Ans: The Text Panel is an area where you can edit, modify, insert, and delete the selected lesson.

8. What are the 3 parts of the Students account window?

Ans: The 3 parts are:

- a. Students Toolbar
- b. Students Account
- c. Property Pane

9. What information is displayed in the Table Analysis?

Ans: This displays the number and percentage of words, characters, spaces, and specific characters that appear.

10. What does the yellow progress bar in the RapidTyping software display?

Ans: The yellow progress bar reflects the acceptable time for typing a single character.

11. What information is shown by the lesson diagram/statistics?

Ans: It shows the statistics for each character or keystroke of the selected lesson in the course diagram.

12. What is the purpose of the volume control in the status bar of RapidTyping software?

Ans: The volume control is to increase and decrease the sound of the keyboard keys pressed by the user.

13. What is the use of the virtual keyboard in the RapidTyping software?

Ans: Virtual Keyboard helps a user to learn touch typing with all the ten fingers by maintaining the current position of the fingers. The virtual keyboard of RapidTyping software supports all types of keyboards.

SECTION 3: APPLICATION BASED QUESTIONS--(SOLVED)

1. You want to import a lesson from another file. In what formats can you send the imported lessons from the RapidTyping software?

2. A person wants to try the RapidTyping software. Which level will you recommend?

3. In what forms can you send the student statistics to an examiner or evaluator?

4. You want the admin to edit group or student properties. Where will you suggest him to go?

5. A new user wants to delete a lesson using the Lesson Editor. Where should he go?

6. Ashish needs to prepare an article on Indian History. He typed 150 words per 5 minutes with errors in 10 words. Find the Gross speed, Net speed, and Accuracy percentage of his typing.

ANSWERS

1. RTF and PDF 2. First level - Introduction 3. PDF, HTML, and CSV 4. Property panel 5. Tool Bar of the Lesson Editor
6. GS: 30wpm, NS: 28wpm, Accuracy: 93.3%

SECTION 4: APPLICATION BASED QUESTIONS-(UNSOLVED)

1. A supervisor wants to train new data entry operators. Which tool or software will you suggest?
2. An examiner wants to know the level of typing of students. Help him to judge and give grades.
3. While analysing your results in Touch Typing, how will you identify the following speed rates — WPM, CPM, KPM, WPS, CPS, KPS?
4. You want to start a new course for your RapidTyping Software class. What steps will you take?
5. Students have taken the advanced course in the RapidTyping Software. What should they do to test their skills?
6. While helping his father in preparing a report, Swaraj typed 80 words per 4 minutes with errors in 12 words. Find the Gross speed, Net speed, and Accuracy percentage of his typing.

SECTION 5: SHORT ANSWER TYPE QUESTIONS-(UNSOLVED)

1. What are Home Row keys?
2. Which keys are used for deleting the text? How are they used?
3. Write any four common mouse actions.
4. What do you understand by combination keys?
5. Mention any two points that can help the user to maintain correct posture while typing.
6. What is the formula to calculate typing error percentage?
7. Name an easy to use keyboard trainer.
8. What are the Operating Systems which support RapidTyping software?
9. When does a New Lesson dialog box open?
10. What information is shown in the Lesson statistics table?

SECTION 6: LONG ANSWER TYPE QUESTIONS-(UNSOLVED)

1. What do you understand by typing accuracy? Explain with example.
2. What is the difference between gross speed and net speed of typing? Explain with example.
3. What is the importance of typing rhythm?
4. What does the Detailed Statistics screen display?
5. What is touch typing? Mention its benefits.
6. List all of the system requirements for installing touch typing software.
7. What are the sequential steps involved in inserting a new lesson plan?
8. Write a note on how to analyse student statistics in RapidTyping software.
9. Describe all the courses available in RapidTyping software.
10. Describe all the commands in the interface of the Lesson editor.



ACTIVITY ZONE

For Better Concept Clarity

1. Divide the class into two groups. Ask one group to prepare a presentation on the RapidTyping software. The other should prepare a specific presentation on the Lesson editor.
2. Ask the students to teach the RapidTyping any person in their house, neighbourhood, or friend circle, and report his progress by sharing statistics.
3. Ask students to discuss the functions of the Lesson editor.



GROUP DISCUSSION

Type the first page of this chapter in Notepad (or any other text editor). Keep an account of the total number of words typed, total time taken (in minutes) to type and the total number of words that contain errors. Calculate the following on the basis of your data:

- + Gross typing speed
- + Net typing speed
- + Accuracy percentage
- + Error percentage

Divide the class into four groups. Compare the accuracy and error percentage among the students of each group.



Getting Started with a Word Processor Application

INTRODUCTION TO WORD PROCESSING

Knowledge is Power. All of us gain knowledge by reading newspapers, books, novels, blogs, mails, and imbibing new information every day. Have you ever thought how such a huge content on various topics is created and updated, minute by minute across the world? The answer is writing. Many people across the globe have a passion for writing. Generally, we use pen and paper to write something. But what will you do if you need to write a document of more than one page?

Earlier people were used typewriters for typing documents. However, now trend has been changed. People use different word processing applications on computers to create, edit, format the documents, and share the created documents using the Internet on different platforms.

A document refers to a set of written pages. The process of creating a document is called documentation. A document can be created by using pen or paper, typewriters, or word processors. We create documents to keep them for future use or to use them as evidence. Documents can be letters, reports, manuscripts, books, etc.

We face certain issues with a handwritten document. For example, it might be difficult to understand specific handwriting, or sometimes it does not look too appealing, so reading the document becomes a boring task. With the advancement in computer hardware and software technology, the process of handwritten documentation consequently automated to computer word processing. **Word processing** is the use of computer software (a word processor) to enter, edit, format, store, retrieve, and print the document. Every single piece of information is touched by a word processor directly or indirectly.

IMPORTANT FEATURES OF A WORD PROCESSOR

A word processor has overcome all the limitations of a typewriter, thus leading to the ultimate extinction of the latter. Let us know about the various features of a word processor:

Ease and Speed	A word processor provides an easier and faster method to type the text.
Editing Features	Using a word processor, you can apply the editing features like copying, moving, and deleting text. You can overwrite or insert a sentence, paragraph or word. Page numbers, headers, and footers can also be inserted. Tabular data can also be presented in documents.
Formatting Features	It provides various formatting feature for text, such as Bold, Italics, Underline, Font Name, FontColor, WordArt, etc.
Storage Features	It stores all your documents for future use, which can be retrieved whenever you want.

Know the Fact



In the beginning, WordStar was the most widely used word processing software.

Know the Fact



LibreOffice is a Free and Open Source Software (FOSS). Nowadays, many versions of LibreOffice are available such as LibreOffice 6.0 and above than it. You can easily download the LibreOffice from the website, www.libreoffice.org

Graphic Features	You can add pictures, drawings, and charts, etc., to your documents. This enhances the overall presentation of a document.
Printing Features	You can easily take printouts of your documents. Most word processors have the feature of WYSIWYG (What You See Is What You Get), i.e., a document on your screen will look exactly similar to its printed version.
Vocabulary and Spell Check Feature	A word processor helps in keeping your document error free as it has a spell check feature, which not only corrects the misspelt words but also suggests the possible synonyms. It is also capable of rectifying grammatical errors.
Mail Merge Feature	This feature allows you to send a piece of text to multiple addresses. For example, if you want to send your birthday invitation to 100 friends, the Mail Merge feature will keep the same invitation text for all, and will change only the names and addresses of invited guests. Hence, this feature saves a lot of time and effort.
OLE Feature	The Object Linking and Embedding feature allows a word processor to interact with other programs by embedding objects in a document. For example, if you have linked an equation written in the spreadsheet software to some charts in a word processor, and if you change the equation values, the charts will change automatically because an object of the same equation is present with the word processor also.

WORD PROCESSING APPLICATIONS

A word processor is application software, which is capable of creating, editing, saving, and printing documents. Notepad and WordPad are basic word processors, and known as text editors. These are used to create and edit plain text. Whereas, while using Word and Writer, you can make changes in text styles, insert decorative text, and insert graphic objects as well. The following are some popular word processing applications:

- ✦ **MS-Word:** Desktop utility
- ✦ **Notepad and WordPad:** Desktop utilities
- ✦ **OpenOffice:** Desktop utility
- ✦ **LibreOffice Writer:** Desktop utility
- ✦ **Google Docs:** Internet based utility

INTRODUCTION TO LIBREOFFICE WRITER

LibreOffice Writer is the word processor application of the LibreOffice Suite. Writer has the power and flexibility to:

- ✦ Produce letters, reports, notices, newsletters, etc. quickly and in a presentable manner
- ✦ Modify the text, both while typing and after typing. Beautify the text using colours, styles, fonts, borders, shadings, and various other effects
- ✦ Insert graphics and make use of various drawing tools to draw pictures. Copy and move the text from one location to another
- ✦ Preview the text before printing it, and take multiple printouts
- ✦ Integrate with objects from other files and applications

STARTING LIBREOFFICE WRITER

You can open LibreOffice Writer on your computer using any of the following ways:

- ✦ Open the Start menu on your computer and select the **LibreOffice 6.2 > LibreOffice Writer** from the Programs list. Or
- ✦ Type **Writer** or **LibreOffice Writer** in the **Search bar**, and press the Enter key. Or
- ✦ Double-click on the **LibreOffice Writer** shortcut icon, if it is available on the desktop. Or
- ✦ Open the **LibreOffice** suite using the **Start** menu or **Search bar**. The LibreOffice suite window appears. Select **Writer Document** under **Create**.
- ✦ The LibreOffice Writer window appears with a blank document.



Fig. 4.1: LibreOffice Writer Window

PARTS OF LIBREOFFICE WRITER

The Writer application opens a blank document with the temporary name **Untitled 1**. It displays a vertical blinking line, called cursor at the top-left side of the Document Area. The larger window is called the Application window and the smaller window, which is inside the application window, is called the Document window. The Application window helps the user to communicate with the LibreOffice Writer program. The Document window is used for typing, editing, and formatting the text. The LibreOffice Writer window has various components as shown:

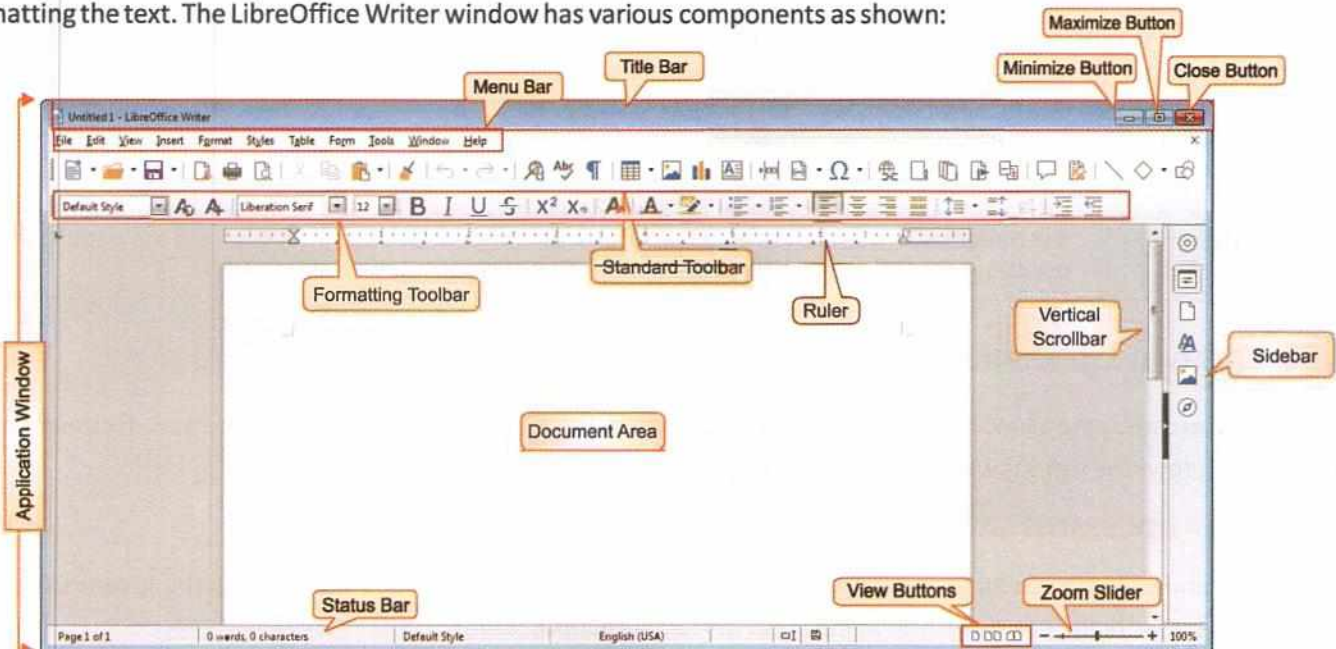


Fig. 4.2: Components of LibreOffice Writer Window

Title Bar	The Title bar appears on the top of the screen. It displays the name of the current document and application. On the extreme right, you will find Minimize, Maximize, and Close buttons.
Menu Bar	This bar contains all the menu options present in the Writer application. The drop-down menus allow the user to interact with the Writer application in various ways. To open a menu, click on the menu name or press the Alt key and the menu-specific hotkey (which appears as an underlined letter in the menu). When you select a menu, a submenu appears. Some submenu items show right hand side arrow ► next to the submenu name, which indicates that there is another submenu.
Standard Toolbar	This bar is present below the Menu bar. It displays the icons of the commonly used commands. By default, Save, Undo, Redo, New, Open, Cut, Copy, Paste, etc., icons appear on the Standard toolbar.
Formatting Toolbar	It is present below the Standard toolbar. It contains the commonly used commands to format and beautify the text. It displays Font Name, Font Size, Font Color, Alignment icons, Bullets and Numbering icons, Indents and Highlighting icons on it.
Rulers	Rulers are present on both top and left side of the document. The horizontal ruler measures the width of the document page. It displays margin settings, tab settings and indentation. The vertical ruler allows you to format the vertical alignment of text. The numbers present on vertical ruler indicate the position of text on that page.
Document Area	It is the large area where you can type, edit, and format the text.
Scrollbars	There are vertical and horizontal scrollbars on the right side and bottom of the Writer window, respectively. You can move the screen display towards up and down with the help of vertical scrollbar, and shift it right or left using the horizontal scrollbar.
Status Bar	It displays the page number, number of words and characters, active working mode, current dictionary in use, a button to save the current document, view buttons, and zoom slider. It is located at the bottom of the document window.
View Buttons	LibreOffice Writer provides different views. Three views are available on the Status bar, such as Single-page view , Multiple-page view and Book view , and other three views are available in the View menu, such as Normal , Web , and Full Screen . To change the view, select the menu and click on the required view option, or click on the required view available on the Status bar.
Zoom Slider	By moving slider handle in or out you can adjust the zoom percentage of the workspace displayed.
Sidebar	It contains six buttons — Sidebar Settings , Properties , Page , Animation , Master Slides , Styles , Gallery , and Navigator . These buttons enable you to make changes in settings of Sidebar, and allow you to format the document.

CREATING A NEW DOCUMENT

In Writer, you can create a new blank document in several ways. If a document is already open, the new document opens in a new window. The various ways to create a new document are discussed below:

CREATING A DOCUMENT USING LIBREOFFICE SUITE WINDOW

When you open LibreOffice Suite, it displays documents of different applications. Here, click on the **Writer Document** option under **Create** to open the Writer application with a new blank document.

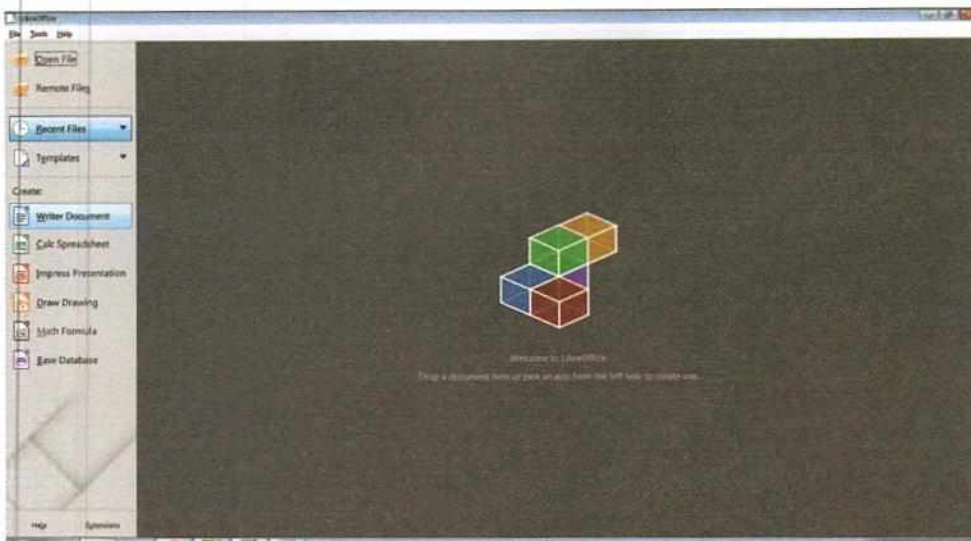


Fig. 4.3: Selecting Writer Document option in LibreOffice Suite window

CREATING A DOCUMENT USING KEYBOARD, MENU BAR OR TOOLBAR

When you are in LibreOffice Writer, you can also start a new Writer document in using any of these ways:

- ✦ Press the **Ctrl+N** keys. Or
- ✦ From the Menu bar choose **File > New > Text Document**. Or
- ✦ Click on the **New** icon on the **Standard** toolbar.

CREATING A DOCUMENT USING A TEMPLATE

A template is a set of predefined styles and settings that is used to create a new document. Templates enable the easy creation of multiple documents with the same default settings. For example, you write a few formal letters on the same template. As a result, all the letters look alike; they have the same headers and footers, use the same fonts, style, formatting, and so on. To create your document using a template, do one of the following:

- ✦ Press the **Ctrl+Shift+N** keys to open the **Template** dialog box. Or
- ✦ Under the **File** menu, choose **Templates > Manage** or choose **New > Templates**. Or
- ✦ Click the arrow next to the **New** icon on the **Standard** toolbar and select **Templates** from the drop-down list. Or
- ✦ Choose **Template** from the LibreOffice main startup window.
- ✦ The **Templates** dialog box appears. Here, double-click the desired template to create a new document based on that template.

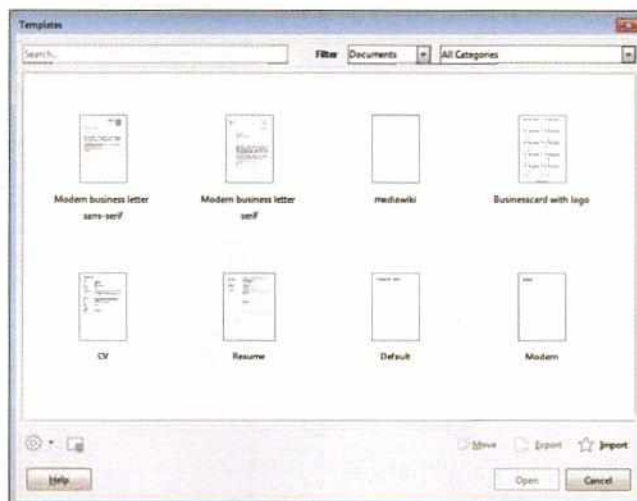


Fig. 4.4: Creating Document from a Template

Know the Fact

The **Normal** view is the default view of LibreOffice Writer. The **Web** view shows how the document will look if viewed in a web browser. The **Full Screen** view is used to read or review a document.

Let's Know More

Toolbars are small graphical icons created for easier access to computer commands. They are typically located at the top of an application and can be customized to show the most used functions of the software.

Quick View

To view or hide a toolbar, click on the **View > Toolbars** and select the required toolbar

Quick View

To select the menus using keyboard, press **Alt** and the Hotkey (the underlined character) of the Menu name.

SAVING A DOCUMENT

You can save a document by using either the **Save** command or the **Save As** command.

SAVING A NEW FILE OR A PREVIOUSLY SAVED FILE

To save a file, do one of the following:

- ✦ Press **Ctrl+S**. Or
- ✦ Under the **File** menu, choose **Save**. Or
- ✦ Click on the **Save** icon on the **Standard** toolbar.
- ✦ If the file is new, the **Save As** dialog appears. Enter the file name, verify the file type and location, and click on **Save**. The file will be saved with the extension **.odt**.
- ✦ If the file has already been saved then nothing else needs to be done. The file gets re-saved with the same name and settings.
- ✦ If you have done some changes in a saved file and want to save it with a new name, then click on the **Save As** option under the **File** menu. This will ask you to save the existing file with a new name, and will keep the original file as it is.

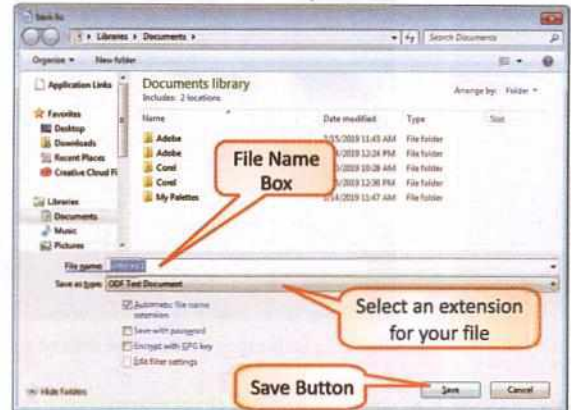


Fig. 4.5: Saving a Document

SAVING A FILE TO A REMOTE SERVER

If your document is already stored on a remote server or you want to store it on a remote server, then follow the steps mentioned below:

- ✦ Choose **File > Save to Remote Server**.
- ✦ The **Save As** dialog appears, enter or verify the name, type, and location of the file.
- ✦ Click on **Save**.

SAVING A COPY OF FILE

If you want to keep the document open for more editing and also save a separate copy of the current version, then do the following:

- ✦ Choose **File > Save a Copy**.
- ✦ The **Save As** dialog appears, enter or verify the name, type, and location of the file.
- ✦ Click on **Save**.

SAVING ALL FILES

To save all the files open in the current session, do the following:

- ✦ Choose **File > Save All**.

All open files will be saved without making any changes to their name, type, or location.

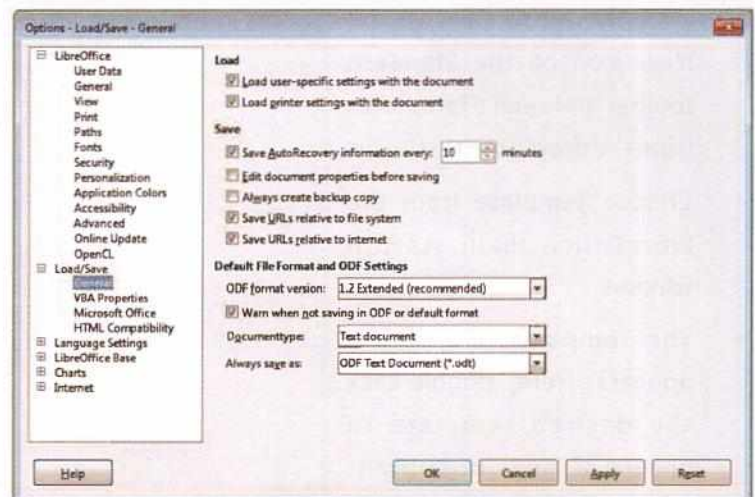


Fig. 4.6: Saving a Document Automatically

SAVING A DOCUMENT AUTOMATICALLY

Writer can save your document automatically in a temporary file at regular intervals. To set up automatic file saving, follow these steps:

- ✦ Select **Tools > Options > Load/Save > General**.
- ✦ Click on **Save AutoRecovery information every** and set the time interval.
- ✦ The default value is 10 minutes. Enter the value you want.
- ✦ You may also wish to select **Always create backup copy**.
- ✦ Click on **OK** to save the changes.

CLOSING A DOCUMENT

There are two ways to close a Writer document:

- ✦ Click on the **File** menu and select **Close**. Or
- ✦ Click on the **Close** button present on the top-right corner of Application window.
- ✦ If you have saved all the changes made in the document, then the Writer document closes immediately.
- ✦ But, if the document has some unsaved changes, a message box appears that prompts you to save the file.
- ✦ Click on the **Save** button to save the file. Click on the **Don't Save** button, if you do not want to save the changes made by you, or click on the **Cancel** button to cancel the current action.

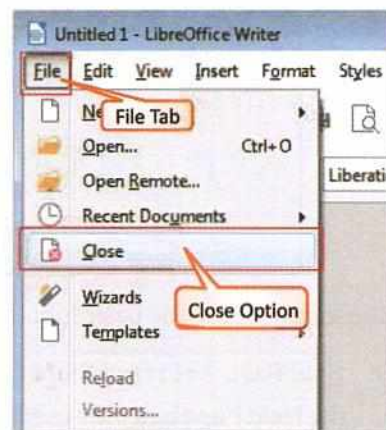


Fig 4.7: Closing a Document

OPENING AN EXISTING DOCUMENT

Once a document is saved on your computer, it can be retrieved any time it is required. When no document is open, then follow any one of the below mentioned steps to open an existing document.

- ✦ Click on **Open File** or **Remote Files** in the main startup window of LibreOffice. Or
- ✦ Choose **File > Open /Open Remote File** from the Menu bar. Or
- ✦ Press **Ctrl+O** on the keyboard. Or

If a document is already open, the second document opens in a new window. To open another document:

- ✦ Click the **Open** icon on the Standard toolbar. Or
- ✦ Use **File >Open /Recent Documents** to select the file you want and then click on **Open**. The Open dialog box appears. Here, locate your file and select it.
- ✦ Click on the **Open** button. The selected file will open immediately in existing window or new window (if a document is already open).

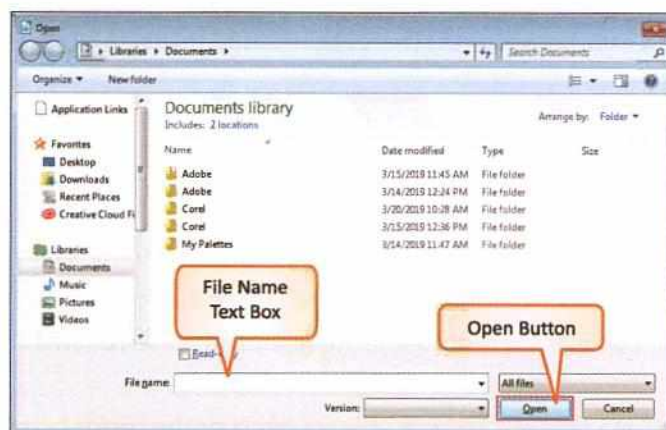



Fig 4.8: Opening a Document

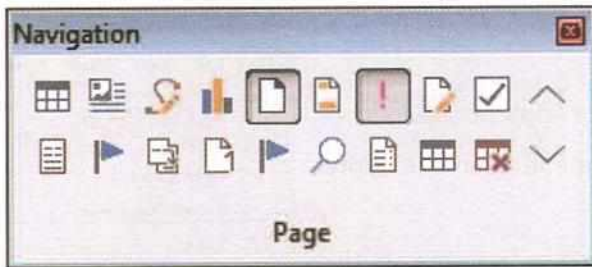


If you want to open a recently opened document, then click on the small triangle to the right of the **Open** icon on the **Standard** toolbar, and select from a list of recently opened documents.






USE OF NAVIGATOR

Navigator in Writer is a useful tool which is used for working with large and complex documents. A large document has multiple objects like tables, headings, sections, hyperlinks and comments associated with it. The Navigator facilitates easy access and navigation between these objects. In the Navigator window, all the objects are displayed in the form of a list. To access an object, simply double-click on the object name.

To access Navigator, choose **View > Navigator** or simply press **F5** key, or press **Navigator** button  on the right Sidebar.



The following are the basic functions of the Navigator window:

- **Next Page** : In case there are multiple pages in a document, the **Next Page** button is used to move to the succeeding pages.
- **Previous Page** : This option is used to move to the preceding pages from the current page in a document.
- **Header, Footer**  : This option is used to jump between document text and Header/Footer.
- **Content View** : This option is used to toggle between all the objects in the Navigator or any single selected object.

CURSOR AND MOUSE POINTER

TEXT CURSOR MOVEMENT

The vertical blinking line in the Document window is called Cursor. You can move the cursor in a document by using the Cursor Control Keys (Arrow keys). There are four Arrow keys — Left, Right, Up and Down on the keyboard. Apart from Arrow keys, there are some other keys on the keyboard that help you to navigate the document easily.

Home key	It moves the cursor to the beginning of the current line.
Ctrl + Home keys	This combination of keys moves the cursor to the beginning of the document.
End	It moves the cursor to the end of the current line.
Ctrl + End keys	It moves the cursor to the end of the document.
Page Up key	It scrolls up one page.
Page Down key	It scrolls down one page.

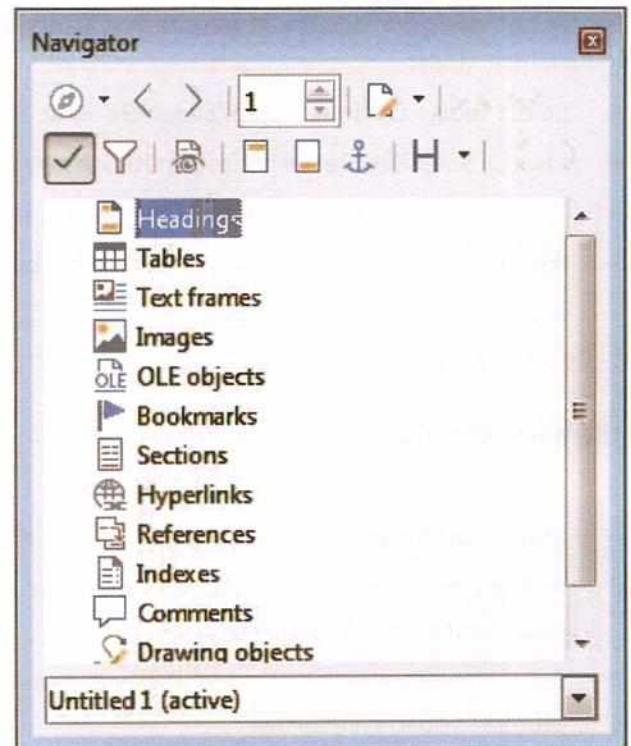




Fig. 4.9: Navigator Options

MOUSE POINTER

A small arrow  on the computer screen is called the Mouse Pointer. It generally changes shape into I-beam  when you bring it over the text. In this situation, it is referred to as a **Text Select** cursor. You can edit the text by moving the **Text Select** cursor over the text and clicking on the desired text to edit it. Thus, the mouse is used to control the Text Cursor location.



ACTIVITY ZONE

For Better Concept Clarity

- ◆ Open **LibreOffice Writer**. A new document will open, by default.
- ◆ Type the given text. Save this file with the name "God—The Creator".

Our daily lives can easily be influenced by stress, pressure, and confusion. But, we can stop any moment and slip away into the presence of God's spirit through prayer and meditation to find peace.

Faith in God is the best insurance when you are faced with a personal tragedy or a natural disaster. An insurance company can reimburse your financial loss, repair your home or car, and help you start again in business, but only God can mend your broken heart.

Do you have troubles? Has some unexpected problem come up? Ask God to come to your aid. Put Him on the spot and test Him. He can do the impossible.

Take time once in a while to watch sunrise or sunset. See and feel the power and majesty of the Great Creator.

- ◆ After saving the file, click on **File>Save As** to assign a new name to the saved file.
- ◆ Close the document and exit LibreOffice Writer.

Quick View



To exit LibreOffice Writer, click on the **File>Exit LibreOffice** or press **Ctrl +Q**.



ASSESSMENT TIME

Answer the Following Questions:

1. What is a word processor?
2. Name the three popular word processors.
3. What are the four major operations possible with LibreOffice Writer?
4. What are the options to save a document?
5. What is cursor? Mention different keys that are used to move cursor in a document.
6. What is I-beam?
7. List different LibreOffice Writer menus.
8. Explain the use of Navigator.



ACTIVITY ZONE

For Better Concept Clarity

Create a document, write few lines about yourself, save the document with your name.odt, close the document, and reopen it.

Editing a Document

Editing text means making corrections to it, and manipulating text in a manner that would lead to the desired end result. This process may include inserting, deleting, copying, moving, finding, and replacing a particular text in a document.

TEXT EDITING – UNDO AND REDO

The **Undo** command allows you to cancel the last action performed. This is useful if you have made changes in the document by mistake, and want to cancel the last change done. To perform undo action, click on **Edit>Undo** or press **Ctrl+Z**.

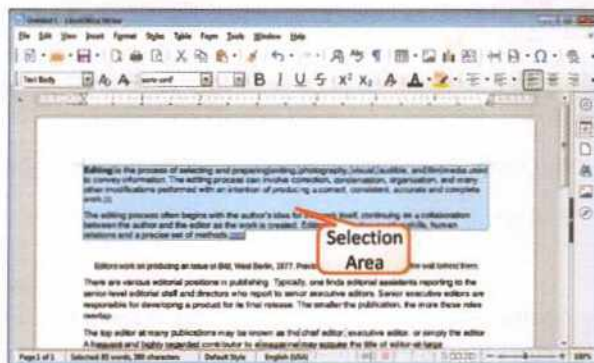


Fig. 5.1: Editing in LibreOffice Writer

The **Redo** command is highlighted when you have performed the Undo operation somewhere in the document. This reverses the action which is performed by the Undo command. That is, if you want to go back after performing undo, use the Redo command. To perform Redo operation, click on the **Edit>Redo** or press **Ctrl + Y**.



You can access the **Undo** ⇨ and **Redo** ⇦ commands from the **Standard** toolbar.

SELECTING THE TEXT

To perform some editing action, you need to select the desired text or a block of text. The selected text appears in a highlighted bar. Let us learn various methods to select the text in a document.

Selection	Method
A word	Double-click on the word.
A sentence	Hold down the Ctrl key and triple-click anywhere in the sentence or triple-click on the left margin beside the sentence.
A paragraph	Triple-click anywhere in the left margin of the paragraph.
A large block of text	Click at the beginning of the text. Press the Shift key and without releasing it, click at the end of the text.
Entire document	Use the shortcut key combination Ctrl+A to select the entire document.
Consecutive Text	Bring the mouse pointer to the desired location and click. Hold down the Shift key and click at the end of the required text.
Non-consecutive Text	Bring the mouse pointer to the desired location. Hold down the Ctrl key and drag to select the word. Then select some other piece of text using the drag option while holding down the Ctrl key.
A vertical block of text	To select a vertical block or a column of text that is separated by spaces or tabs, click on Edit>Selection Mode>Block Area or press Alt+Shift+F8 . Now, drag the mouse to select a text. You will observe vertical selection. To stop selecting text vertically, click on the Edit>Selection Mode>Standard .

COPYING AND PASTING THE TEXT

Copying text means to keep the text at the original location as well as copy it to another location. This feature helps to save your time and effort in typing. Sometimes, you wish to create multiple copies of the desired text. In such cases, you can simply select the text, copy it and paste it in multiple locations.

There are four ways of performing this operation:

- Right-click on the selected text and select the **Copy** option from the Shortcut menu. Now, bring the pointer at the new location where you want to paste the text, right-click on that location and select the **Paste** option.

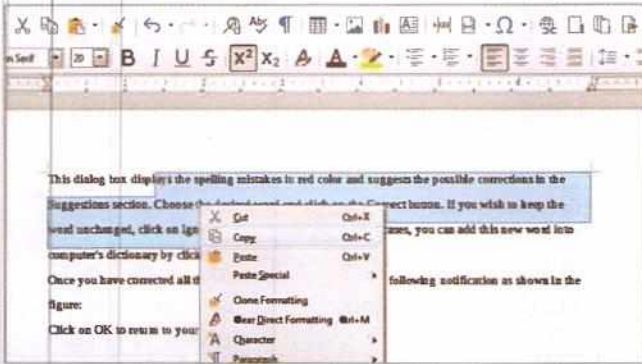


Fig. 5.2: Copying the Text Using Shortcut Menu

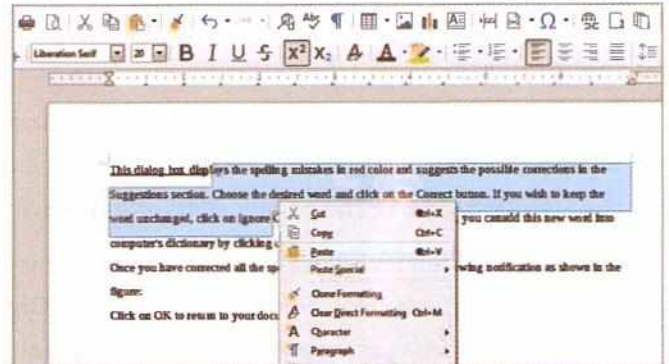


Figure 5.3: Pasting the Text Using Shortcut Menu

- Select the desired text and click on the **Copy** button present on the **Standard** toolbar. Bring the pointer at the desired location and click on the **Paste** button located on the **Standard** toolbar. The pointer shifts after the last character of the pasted text.

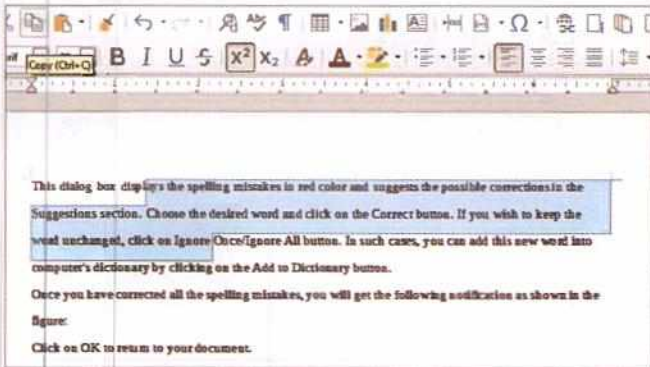


Fig. 5.4: Copying the Text Using Toolbar

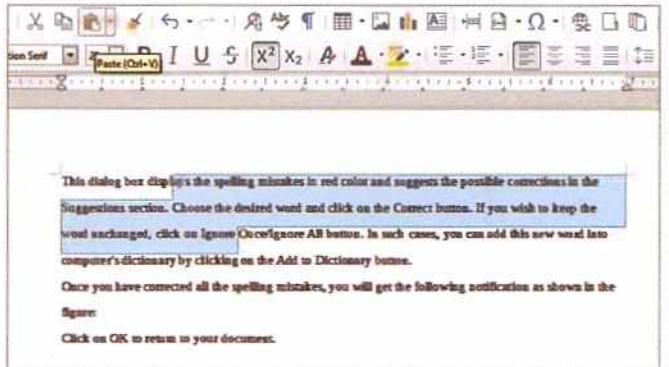


Figure 5.5: Pasting the Text Using Toolbar

- Select the desired text. Now, click on the **Edit** menu and select the **Copy** option. Now, bring the pointer at the desired location. Click on the **Edit** menu and select the **Paste** option. The selected text is pasted and the cursor moves to the end of the pasted text.

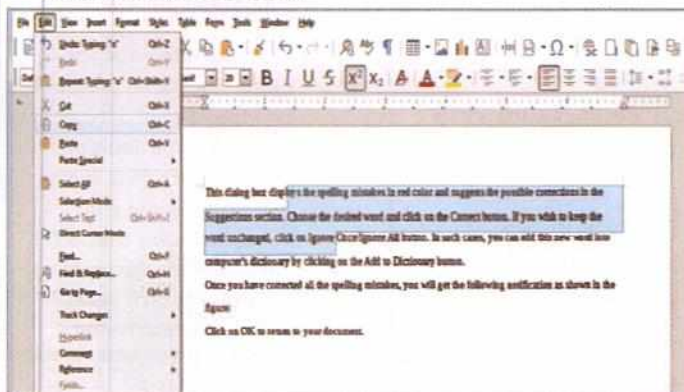


Figure 5.6: Copying the Text Using Edit Menu

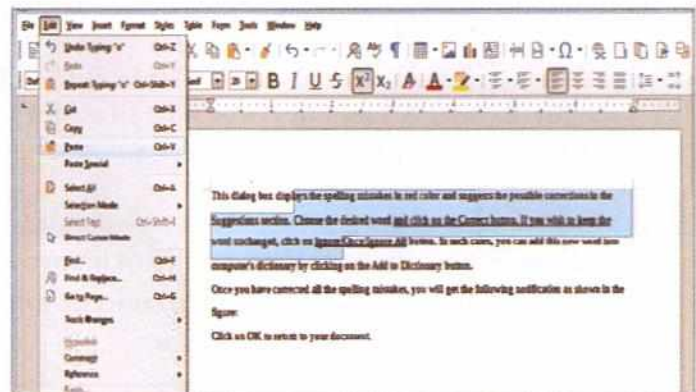


Fig. 5.7: Pasting the Text Using Edit Menu

- ✦ Select the desired text and press **Ctrl+C**. Now, bring the pointer at the desired location and press **Ctrl+V**.

MOVING THE TEXT

This feature allows you to change the position of the selected text from one place to another. To move a piece of text, use the **Cut** option rather than the **Copy** option. There are four ways of moving the text:

- ✦ Right-click on the selected text and select the **Cut** option from the context menu. Now, bring the pointer at the new location where you want to paste the text. Right-click on that location and select the **Paste** option.
- ✦ Select the desired text and click on the **Cut** button present on the **Standard** toolbar. Bring the mouse pointer at the desired location and click on the **Paste** button located on the **Standard** toolbar. The pointer shifts after the last character of the pasted text.
- ✦ Select the desired text. Now, click on the **Edit** menu and select the **Cut** option. Bring the pointer at the desired location. Again click on the **Edit** menu and select the **Paste** option. The selected text is pasted and the cursor appears at the end of the pasted text.
- ✦ Select the desired text and press the **Ctrl+X** key combination. Now, bring the pointer at the desired location and press the **Ctrl+V** key combination.

While moving the text from one place to another, the selected text disappears when you use the **Cut** option. Where does this text go?

Almost every application has a temporary storage place called the **Clipboard**. The text which you have cut stays on the clipboard until the paste operation is completed.

Similarly, if you are doing the **Copy-Paste** operation, then the selected text remains on the clipboard until you copy or cut a new piece of text from the document.

FIND AND REPLACE

While looking for certain words in a large document, it is very inconvenient to go through the entire text. The LibreOffice Writer has a Find and Replace feature that automates the process of search as well as replacement of the text.

FINDING TEXT

- ✦ Write the given text in your document.

Without the ability to concentrate, a full and complete life is not possible. If you lack the mental focus to stay with one activity for any length of time, you will never be able to achieve your goals, build your dreams or enjoy life's process.

Without a disciplined mind, trivial thoughts and worries will nag at you and you will never have the capacity to immerse yourself in more meaningful pursuits. Without deep concentration, your mind will be your master rather than your servant.

Fig. 5.8: Sample Text

Let's Know More

Clipboard is a temporary storage location that can be used for short-term data storage and/or data transfer operations between documents or applications, via Copy-Paste or Cut-Paste method.

Quick View

The shortcut key to activate the **Check Spelling** tool is **F7**.



Let's Know More

The **Automatic Spell Checking** tool is present in the form of a toggle button in the **Tools** menu. If you click on it, it gets activated and automatically checks for errors in the document. If you click on it again, it gets deactivated.

Let us see how to use this feature.

- Click on the **Edit** menu and select the **Find** option.
- The **Find** toolbar appears at the bottom of Writer window.
- Type the keyword 'goals' in the **Find** text field and click on **Find All**.
- The keyword, 'goals' gets highlighted in the entire text.
- Click on the **Match Case** check box, if you want to search the text with similar case that you have typed in **Find** text box.
- Use **Find Previous** or **Find Next** button to find the text above or below the cursor.
- Use **Previous Page** or **Next Page** button to find the text in previous or next pages.
- Click on the **Navigate By** drop-down arrow to choose between various areas of the document to find the text.
- Click on the **Close Find Bar** button to close the **Find** toolbar.

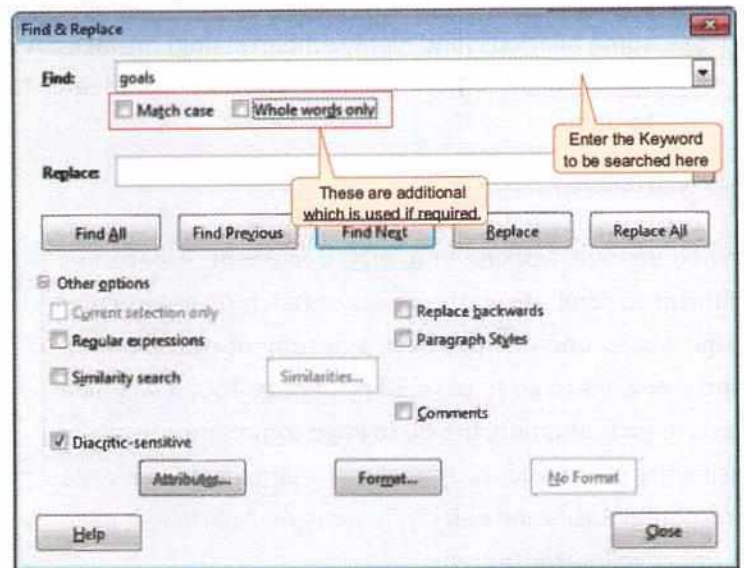
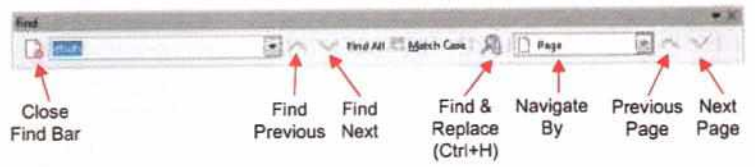


Fig. 5.9: Find and Replace Dialog Box

REPLACING TEXT

Once you have found a particular keyword in your document, you can replace it with a new word. Let us find the word 'goals' and replace it with a new word, 'aim' in the whole document. To start replacing text, do the following:

- Open the **Find & Replace** dialog box in any one of the following ways:
- Open **Edit** menu and choose the **Find & Replace** option. Or
- Click on the **Find & Replace** tool on the **Find** toolbar. Or
- Press **Ctrl+H**.
- The **Find & Replace** dialog box opens. Type the keyword 'goals' in the **Find** section and 'aim' in the **Replace** section.
- Choose **Match case** and/or **Whole word only** options as per your requirement.
- Click on **Replace** button to replace the found text one by one, or choose **Replace All** button to replace current occurrence of the searched text.
- Click on the **Close** button, once completed.

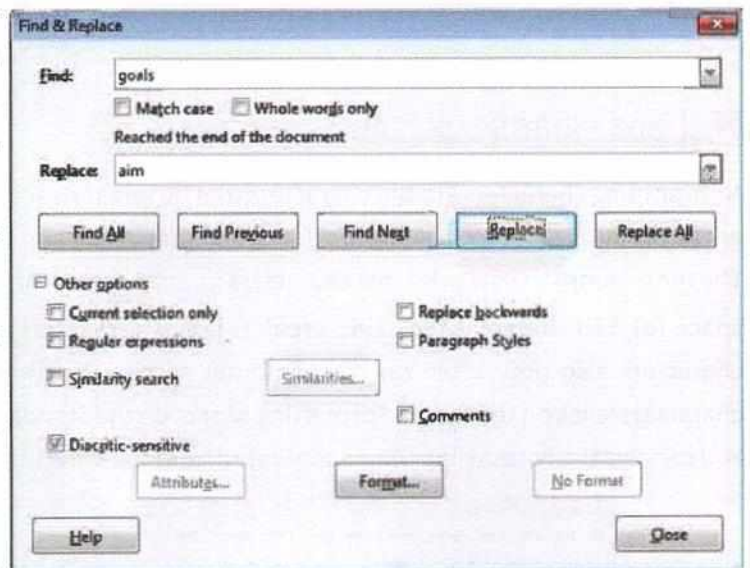


Fig. 5.10: Replacing the Text

Tip

If you click on **Find All**, Writer selects all instances of the searched text in the document. Similarly, if you click on **Replace All** button, Writer replaces all matches.

Quick View

Ctrl + H is the shortcut key to open the **Find & Replace** dialog box.



Caution: Use the option of **Replace All** with caution; otherwise, you may end up with some hilarious (and highly embarrassing) mistakes. A mistake with the **Replace All** option might require a manual, word-by-word search to fix, if not discovered in time to **Undo**.

JUMPING TO THE PAGE NUMBER

When you are working in a large document, it becomes difficult to scroll down the pages to reach on a particular page. For example, if you have a document of 200 pages, and you want to go to page 50 from page 150, it will be a task. In such situation, the **Go to Page** command is used. By using this command, you can directly jump from one page to another easily and quickly. To jump on a particular page number, follow these steps:

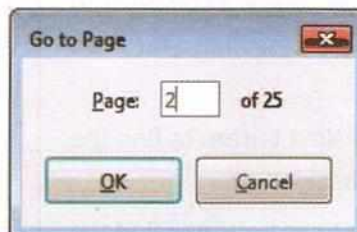


Fig. 5.11: Go to Page Dialog Box



- ✦ Click on the **Edit** menu and then click on **Go to Page** command. Or
- ✦ Press **Ctrl + G**.
- ✦ The **Go to Page** dialog box appears.
- ✦ Enter the page number on which you want to move and click on **OK**.
- ✦ You will reach on the page number entered by you.

NON-PRINTING CHARACTERS

Non-printing characters are the characters that do not appear in a printed document. These are basically used for formatting the document that is why also known as **Formatting marks**. The most common non-printable characters in word processors are **space (.)**, **non-breaking space (o)**, **tab character (→)**, **Line break (↵)**, and **paragraph mark (¶)**. By default, these characters also not visible on the computer screen. To show or hide the non-printing characters, click on the **Toggle Formatting Marks** on the Standard toolbar or press **Ctrl+F10**. You can also the **Formatting Marks** command from the **View** menu.

Know the Fact

The **Find and Replace** utility in Writer preserves the case. If the found text begins with a capital letter, the text replacement will begin with a capital letter. Clicking on the **Match case** checkbox will search the text with similar case that you have typed in the **Find text box**.

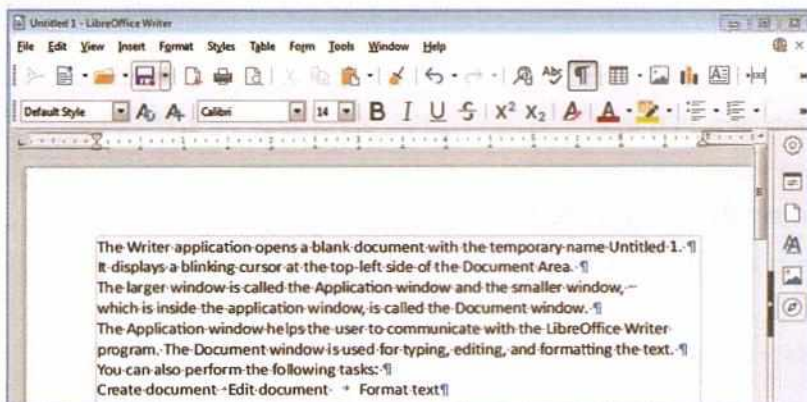


Fig. 5.12: Figure: Non-printing Characters



What does your teacher do when you submit your homework to her? She checks the content of your answer, and spellings and grammatical mistakes.

Similarly, the LibreOffice Writer checks the content you type, and sometimes, displays red, green and blue wavy lines under a few words. The red wavy lines indicate the spelling errors, green wavy lines indicate grammatical errors, and blue wavy lines indicate contextual spelling errors. The LibreOffice Writer has a built-in dictionary and set grammatical rules to check the spellings and grammatical errors of any text document.

If your document reporting errors by indicating red, green and/or blue way lines, follow any of these methods to check and fix the errors:

METHOD 1

Using Right-click Menu: The wavy red lines below the certain words mark the presence of spelling mistakes. You can either review the spellings and correct them manually or right-click on the word, and choose the correct matching word from the computer dictionary.

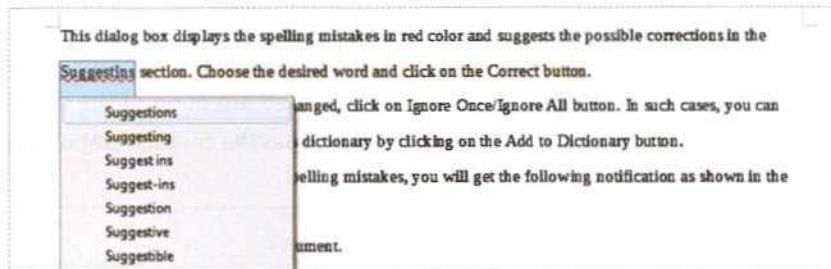



Fig. 5.13: Using Right-click Menu

METHOD 2

Using Check Spelling Tool: Click on the **Check Spelling** button  on the **Standard** toolbar, or click on the **Tools** menu and select the **Spelling** option to correct the next two mistakes. You will find the **Spelling** dialog box. This dialog box displays the spelling mistakes in red color and suggests the possible corrections in the **Suggestions** section.

- ✦ Choose the desired word and click on the **Correct** button.
- ✦ If you wish to keep the word unchanged, click on **Ignore Once/Ignore All** button. In such cases, you can add this new word into computer's dictionary by clicking on the **Add to Dictionary** button.
- ✦ Once you have corrected all the spelling mistakes, you will get a notification.
- ✦ Click on **OK** to return to your document.

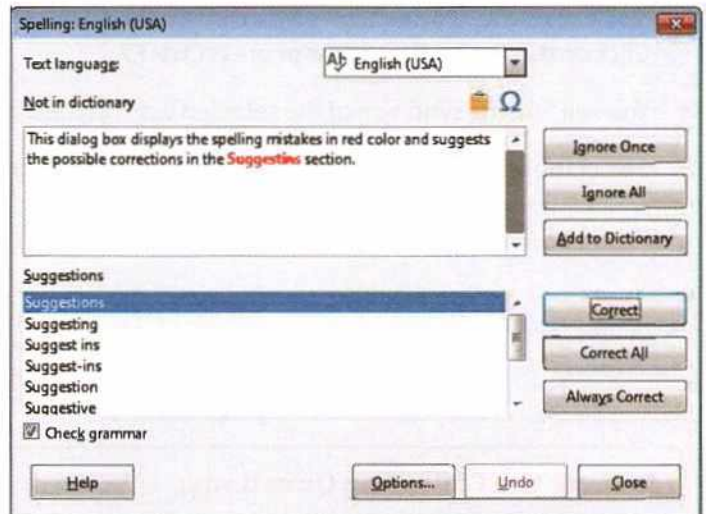



Fig. 5.14: Using Check Spelling Tool

Caution: Sometimes, you feel that there are no spelling mistakes in your document but there might be a case  that the Spelling and Grammar feature is not working. How would you rectify this problem?

The LibreOffice Writer has some built-in dictionaries using which it checks your document. You should be aware of the current dictionary in use. You can check it by looking at the Status bar.

The **English (India)** dictionary allows you to write many regional words. Hence, it may not underline a misspelled word at all. In this case, click on the **English(India)** English (India) and change the dictionary to **English (USA)**.

You will now be able to see the mistakes that you have committed while typing.



Fig. 5.15: Changing the Dictionary

USING THESAURUS

The Thesaurus feature is a built-in dictionary that enables you to look up synonyms, antonyms, word substitutes, and alternative spellings. This feature increases your writing abilities and vocabulary, and helps you to better understand the text. When you look up a word in thesaurus, it will provide you a list of alternative words in which you can choose a word and use it in place of an existing word. Let us learn how to use the **Thesaurus** feature.

Write a few line:

In 2011, Gandhian rights activist Anna Hazare started a Satyagraha movement by commencing a fast unto death in New Delhi to demand the passing of the Jan Lokpal Bill. The movement attracted attention of the media, and thousands of supporters. The Jan Lokpal Bill (Hindi: जन लोकपाल विधेयक), also referred to as the citizens' ombudsman bill, is a proposed anti-corruption law in India.

Figure 5.16: Sample Text

Let us find the synonym of the word, **ombudsman**.

- ✦ Select this word.
- ✦ Click on the **Tools > Thesaurus** or press **Ctrl+F7**.
- ✦ You will find the synonym of the selected word in the opened dialog box.
- ✦ Select the required word, and click on the **Replace** button to replace the word.



Fig. 5.17: Thesaurus Dialog Box



ASSESSMENT TIME

Answer the Following Questions:

1. What do you mean by editing text?
2. How can you select an entire paragraph?
3. What is the difference between copy-paste and cut-paste?
4. What is the use of Find & Replace dialog box?
5. How do you jump from one page to another in a document?
6. What are non-printing characters?
7. What is a thesaurus?
8. What is the shortcut key to activate the Spelling and Grammar tool?



ACTIVITY ZONE

For Better Concept Clarity

1. Create an invitation letter for the wedding of your brother. Edit the letter by selecting and deleting the text and then save the document. Open the existing document and make some modifications in it. Save the document again.
2. Open any existing document which has multiple paragraphs. Copy the first sentence of the first paragraph and paste it at the end. Cut the second sentence and paste it at the end of the paragraph.
3. Remove the spelling and grammatical errors from the following text:

Dearr Ashwinn

Hopes that letter find you in bests of helths ans spirits. We have not meet for many day.

Wether in Delhi is beter now. Come do visits us. My scool are opening after Diwali.

Give regards to elder.

Your freind

Reema

4. Find and replace all the occurrences of 'Kings' with 'Rings' in the following passage:

Kings have been around since ancient times. We have Kings from Europe, Asia, South America, and Africa. Some kings are good while some are bad. We even have some kings, nowadays.



Formatting a Document

In any profession, it is important to keep documents presentable and beautiful. This can be achieved by adding the effects that beautify the text. Formatting means changing the overall look of a document. In LibreOffice Writer, you can apply different types of formatting — text formatting, paragraph formatting, and page formatting.

Let us first learn how to setup a page, and then you will learn how to apply different types of formatting in a document.

PAGE STYLE DIALOG BOX

While creating a new document you need to define the page settings, if you do not want to continue with the default page settings. For this, you use the Page Style dialog box. To open the Page Style dialog box and customize page settings, follow these steps:

- ✦ Click on the **Format** menu and choose the **Page** option.
- ✦ The **Page Style** dialog box appears.
- ✦ Select the **Page** tab, if not selected by default. You will see different options related to the page, such as Paper Format, Margins, Layout Settings, etc.
- ✦ Choose the size of page by selecting the desired page size in **Format** drop-down box. For example, select **A4**.
- ✦ Set the orientation of the document by selecting **Portrait** or **Landscape**.
- ✦ Click on **OK**. The changes done by you will be applied immediately.

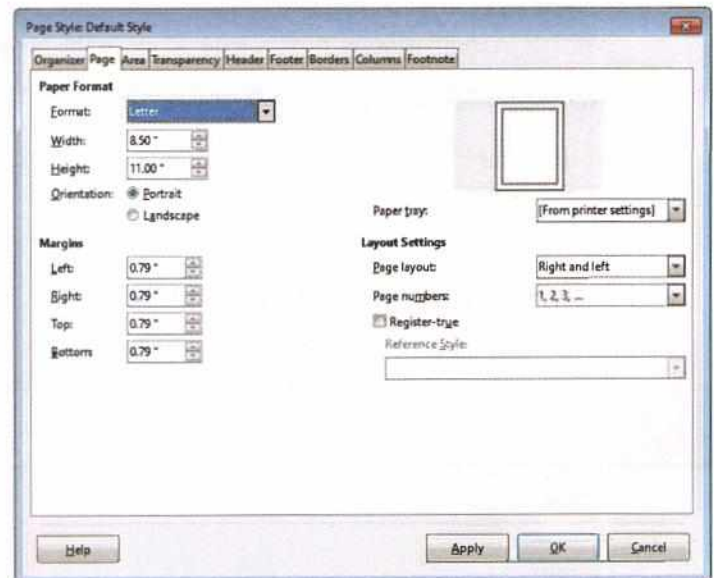


Fig. 6.1: Page Style Dialog Box

NOTE

To get the default settings of page, click on the **Reset** button in the **Page Style** dialog box.

TEXT FORMATTING

Text formatting is applied in a document to enhance the appearance of text and individual characters. It increases the readability of the document. From font sizes to font styles, text positioning to text attributes, text formatting includes all attributes that can be used to define the arrangement and visual display of text. To apply formatting, you first select the text and then apply the required text formatting.


In LibreOffice Writer, text formatting can be done in several ways:

- ✦ Using the Format menu
- ✦ Using the Formatting toolbar

- ✦ Using the context menu
- ✦ Using the Character dialog box
- ✦ Using the Properties pane
- ✦ Using the keyboard shortcuts




REMOVING MANUAL FORMATTING

In LibreOffice Writer, when you copy a segment of text and paste it at the new location, its formatting also copied there. In such situation, you first remove the formatting to apply the new formatting. To remove formatting, follow these steps:

- ✦ Select the text from which formatting is to be removed.
- ✦ Click on the **Format** menu and select the **Clear Direct Formatting** option. Or
- ✦ Press **Ctrl+M**. Or
- ✦ Click on the **Clear Direct Formatting**  on the **Formatting** toolbar.

COMMON TEXT FORMATTING

LibreOffice Writer provides the Formatting toolbar that contains common text formatting commands. Let us learn the use of some commonly used text formatting commands.

- ✦ **Changing Font:** To change font, select the text and click on the **Font Name** drop-down  arrow on the Formatting toolbar. Select the required font.
- ✦ **Changing Font Size:** To change font size, select the text and click on the **Font Size**  drop-down arrow on the Formatting toolbar. Select the required font size.
- ✦ **Making text Bold, Italic and Underline:** You can easily make the text **Bold** **B**, **Italic** **I** and/or **Underline** **U** by selecting the text and clicking on the corresponding buttons on the Formatting toolbar.
- ✦ **Changing Font Color:** To change the font color, select the text and click on the **Font Color**  button on the Formatting toolbar. The color palette appears. Select the required color.

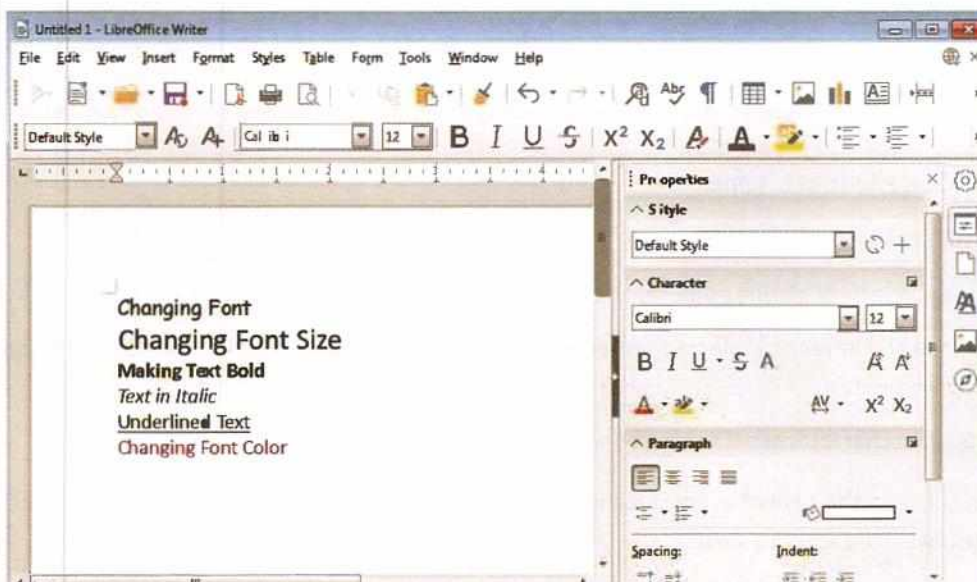



Fig. 6.2: Common Text Formatting

Quick View 

Ctrl + B: To make text bold

Ctrl + I: To italicize text

Ctrl + U: To underline text

PRACTICE TIME

Let us write the following text and try to change its **Font Family**, **Font Style**, and **Font Size**.

Habits are routines of behaviour that are repeated regularly and tend to occur subconsciously. Habitual behaviour often goes unnoticed in persons exhibiting it, because a person does not need to engage in self-analysis when undertaking routine tasks.

Habituation is an extremely simple form of learning, in which an organism, after a period of exposure to a stimulus, stops responding to that stimulus in varied manners. Habits are sometimes compulsory.

Sample text

- ✦ Select the first words from both the paragraphs.
- ✦ Use the Formatting toolbar to apply the following text formatting:
 - Click on the **Font Name** drop-down button and select **Verdana** as a font.
 - Click on the **Font size drop-down** button and select 12 point as font size.
 - Click on the **Bold** and **Italic** buttons to apply bold and italic effects, respectively.
- ✦ You will see the following output

Habits are routines of behaviour that are repeated regularly and tend to occur subconsciously. Habitual behaviour often goes unnoticed in persons exhibiting it, because a person does not need to engage in self-analysis when undertaking routine tasks.

Habituation is an extremely simple form of learning, in which an organism, after a period of exposure to a stimulus, stops responding to that stimulus in varied manners. Habits are sometimes compulsory.

CHANGING TEXT CASE

When you type text in LibreOffice Writer, it appears in lowercase if the Caps Lock key is not ON. You can change the case of the typed text easily by following these steps:

- ✦ Select the text which case is to be changed.
- ✦ Click on the **Format** menu and then click on **Text**.
- ✦ A submenu appears. Select any of the following text cases:

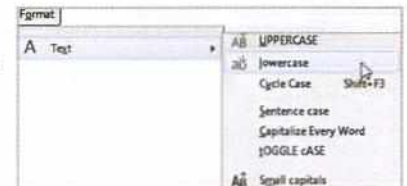


Fig. 6.3: Text Cases

Text Case	Description
UPPERCASE	It converts the selected text to uppercase.
lowercase	It converts the selected text to lowercase.
Cycle Case	It allows you to cycle through three different case scenarios: ALL CAPS, all lowercase, and All Title Case.
Sentence Case	It capitalizes the first letter of a selected sentence and keeps rest of the letters as lowercase, for example, this is a test document.
Capitalize Each Word	It changes the first character of each selected word to uppercase.
tOGGLE cASE	This option converts the case of every selected character in the reverse way i.e., a capital character will convert into lower case and vice versa.
Small capitals	It converts the selected text to uppercase, and keeps the first character of each sentence slightly taller or bigger than rest of the characters.

APPLYING SUPERSCRIP AND SUBSCRIPT

Sometimes, it is required to change the position of the selected text slightly above or below the normal line of text. For this, LibreOffice Writer provides Superscript and Subscript commands.

Superscript: It places the selected text slightly above the line of text.

Subscript: It places the selected text slightly below the text baseline.

Let us write 44 raised to the power of 8. You need to raise the position of 8 with respect to 44, so that it looks like the exponent such as 44^8 . To do so, follow these steps:

- Select the text, for example select digit 8.
- Click on the Format menu and select the **Text** option.
- A submenu appears. Select the **Superscript** option. Selected text appears as 44^8 .
- Similarly, choose the **Subscript** option to apply subscript on a selected text to make it appear lower than the rest of the text. For example, H_2O , where 2 is a subscripted text.

Quick View

You can apply Cycle Case to the selected text by pressing **Shift+F3**.

Quick View

Ctrl+Shift+P: To write text in Superscript

Ctrl+Shift+B: To write text in Subscript

H_2O
 44^4
 a_2+b_2



Fig. 6.4: Superscript and Subscript

PARAGRAPH FORMATTING

Paragraph formatting is the most important factor in the overall appearance of a document. It includes paragraph alignments, paragraph indentation, paragraph spacing, borders and shading effects. Paragraph Formatting contributes the most to the final appearance of the document.

INDENTING A PARAGRAPH

The distance between the text boundaries and the page margins is called **Indent**. The indenting feature is used to move the complete paragraph or the first line to a specific number of places between the left or right margins. A well indented document always catches the reader's attention as it looks organized and structured. To indent a paragraph, follow these steps:

- Select the paragraph to be indented, or place the cursor before the paragraph.
- Click on the **Increase Indent** button  on the Formatting toolbar. The selected text will shift ½ inch away from the left margin.
- Click on the **Decrease Indent** button  on the Formatting toolbar to move the text ½ inch closer to the left margin.

Each time when you click on the **Increase indent** or **Decrease Indent** button, the current paragraph's indent will increase or decrease, respectively.

Or

You can set the indent by using the paragraph dialog box. Click on **Format > Paragraph**. The **Paragraph** dialog box appears. In the dialog box, the **Indents & Spacing** tab is selected, by default. Here, select the required indentation under **Indent**:

- **Before text:** This is also called the **left indent**. A positive value will leave the corresponding space from the left margin and vice versa.

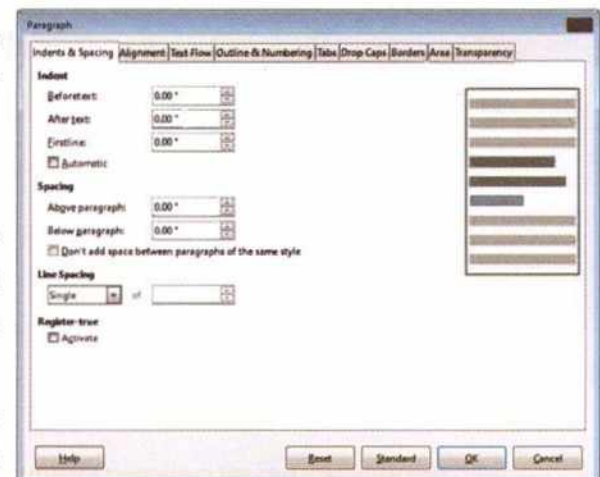


Fig. 6.5: Paragraph Dialog Box

- **After text:** This is also called the **right indent**. A positive value will leave the corresponding space from the right margin and vice versa.
- **First line:** This option is used to specify indent values for the first line of the document.
- **Automatic:** This option indents the first line of every paragraph automatically.

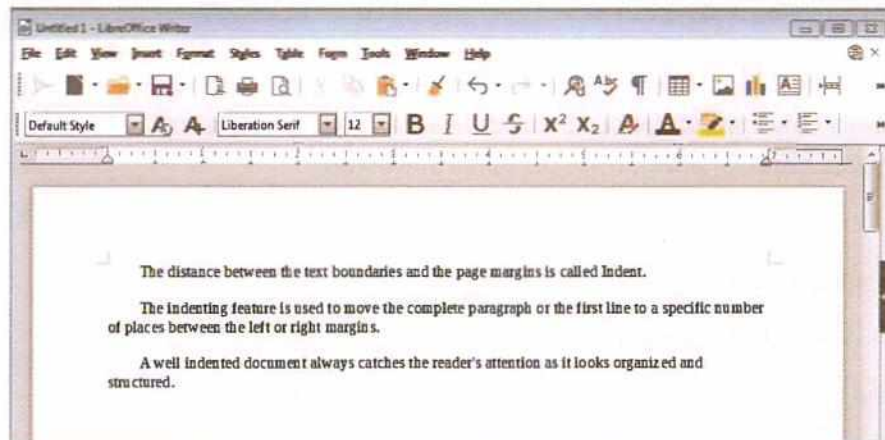


Fig. 6.6: Indented Paragraphs

ALIGNING PARAGRAPHS

Text alignment or paragraph alignment refers to the position of text with respect to the margins of the page. You can set the alignment before typing. You can also select the entire document, or a segment of text, and then change its alignment.

There are two categories of text alignment — horizontal and vertical.

Horizontal Text Alignment

When you align the text with respect to left and right margins, it is called horizontal text alignment. The text alignments that you generally use, fall under this category.

There are four types of horizontal text alignment :

1. **Left Alignment:** This is the default alignment of text in a document. The text is aligned along the left margin while leaving a little space towards the right margin.
2. **Right Alignment:** The text is aligned along the right margin while leaving a little space towards the left margin. This alignment is mostly used to put dates on letter heads.
3. **Center Alignment:** The text is aligned centrally between the left and right margins. It is mostly used for titles.



Fig. 6.7: Alignment Buttons on the Formatting Toolbar

4. **Justified Alignment:** The text is aligned evenly between the left and right margins.

Let us type the following text and apply some text alignment effects to it.

The golden thread of a highly successful and meaningful life is self-discipline. Discipline allows you to do all those things you know in your heart that you should do but never feel like doing.

Without self-discipline, you will not set clear goals, manage your time effectively, treat people well, persist through the tough times, care for your health or think positive thoughts.

Fig. 6.8: Sample Text

Method 1:

- ✦ Select the first paragraph. Click on the **Format** menu and select the **Paragraph** option.
- ✦ The **Paragraph** dialog box will open. Select the **Alignment** tab and you will find four different text alignment options.
- ✦ Click on the **Center** radio button from the given options. You can also preview the selected alignment in the Preview box located on the right hand side.
- ✦ Now, click on **OK**.

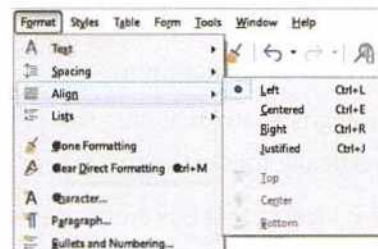


Fig. 6.9: Alignment Options

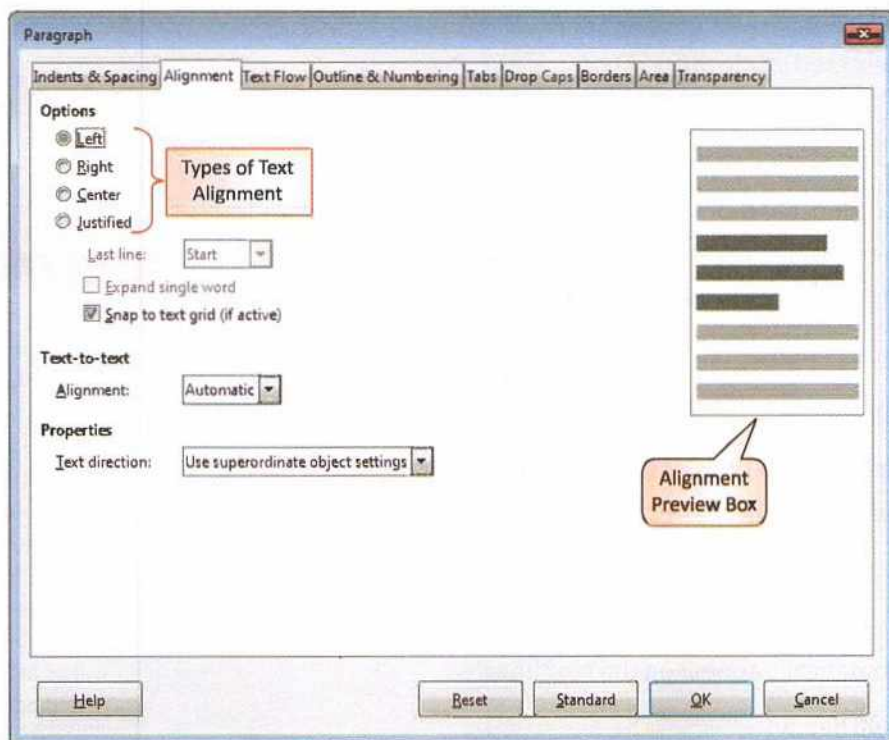


Fig. 6.10: Alignment Tab

Method 2:

- ✦ Select the paragraph and click on the **Format** menu.
- ✦ Choose **Align**, a sub-menu appears.
- ✦ Select an alignment option — **Left (Ctrl+L)**, **Centered (Ctrl+E)**, **Right (Ctrl+R)**, or **Justified (Ctrl+J)**. For example, select **Centered** and the text will be aligned in center with respect to the margins.

Quick Quiz

What is the difference between Margins and Indents?



Let's Know More

You can apply the feature of Drop Caps using the **Drop Caps** tab under the **Paragraph** dialog box. Drop Caps is a text formatting feature which enlarges the first character of a line to an extent that it drops down by two or more lines.

You will get the following output:

The selected text has been center aligned with respect to the margins.

The golden thread of a highly successful and meaningful life is self-disciplined. Discipline allows you to do all those things you know in your heart you should do but never feel like doing.

Without self-discipline, you will not set clear goals, manage your time effectively, treat people well, persist through the tough times, care for your health or think positive thoughts.

Vertical Text Alignment

It aligns the text with respect to the top and bottom margins of a frame. To align the text vertically, follow the given steps:

- Insert a text box and write text in it.
- Select the text.
- Click on the **Format** menu.
- Choose **Align**, the sub-menu appears.
- Click on **Top**, **Center** or **Bottom**. For example, select the **Center** option.
- The text will align vertically centered inside the text box.



Fig. 6.11: Choose Vertical Alignment



Vertically Aligned Text

BULLETS AND NUMBERING

A list is defined as the number of connected items: names, or sentences, written or printed consecutively, one below the other. A **bullet** is a small graphic symbol that marks an item in a list. You can format lists in a document by using **Bullets** and **Numbering** commands.

Let us learn how to create a bulleted or numbered list.

Write the title as **SEVEN HABITS OF GOOD STUDENTS**.

- Now, click on the **Toggle Bulleted** button or the **Toggle Numbered List** button present on the **Formatting** toolbar.
- A bullet or a number appears in the document. Write the first habit as **Be Proactive** and then press the **Enter** key.
- The bullet or number will automatically appear on the next line.
- Compile the whole list as shown below:

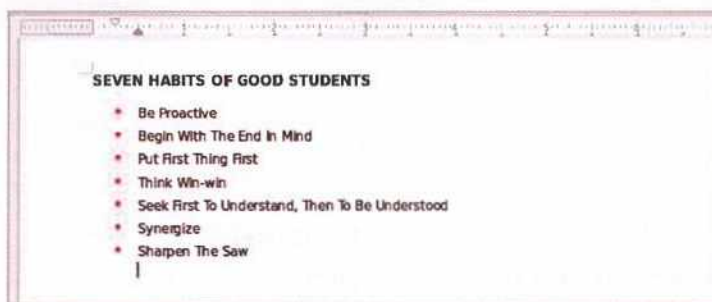


Fig. 6.12: Sample Text

Let's Know More

If you want to start a new line without bullet/number, then use **Shift+Enter** key combination.

Let's Know More

You can highlight some words, phrases or paragraphs in your document, if required. To highlight text, first select it. Then, click on the **Highlight Color** drop-down arrow on the **Formatting** toolbar, and select the required highlighter. Selected text will be highlighted immediately.

Let Us Recall

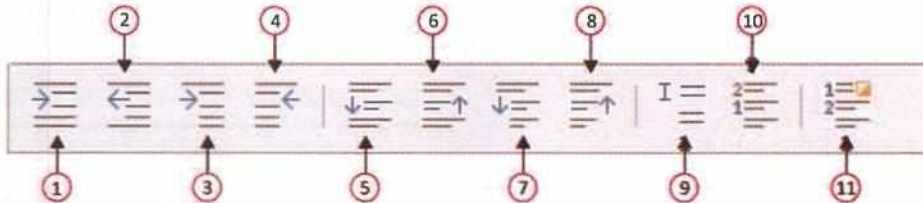
To move a bulleted list down by one outline level, click at the beginning of the paragraph and then press the **Tab** button/key.

NOTE

You can use the indent markers present on the Horizontal ruler to increase/decrease the spacing between a bullet and text.

Using the Bullets and Numbering Toolbar

In Writer, whenever, you apply a bulleted or numbering list to a paragraph, the **Bullets and Numbering** toolbar appears automatically at the bottom of the window. You can also access the toolbar by selecting **View>Toolbars>Bullets and Numbering**, if it is not visible. The Bullets and Numbering toolbar contains the following options:



- | | | |
|-------------------------------------|------------------------------|---------------------------|
| 1. Demote One Level | 5. Move Down (Ctrl+Alt+Down) | 10. Restart Numbering |
| 2. Promote One Level | 6. Move Up (Ctrl+Alt+Up) | 11. Bullets and Numbering |
| 3. Demote One Level With Subpoints | 7. Move Down with Subpoints | |
| 4. Promote One Level With Subpoints | 8. Move Up with Subpoints | |
| | 9. Insert Unnumbered Entry | |

Fig. 6.13: Bullets and Numbering Toolbar

Let's Know More

To stop entering bulleted or numbering list, click on the **Toggle Bullets List** button or the **Toggled Numbered List** on the **Formatting** toolbar.

NOTE

Whenever, you apply the Bullets/Numbering to a paragraph, the Bullets and Numbering toolbar automatically appears on the bottom left corner of the Work Area.

Using the Bullets and Numbering Dialog Box

- ✦ Bring the pointer in the Document Area and click where you want to insert a list or select a list which style is to be changed.
- ✦ Click on the **Format** menu and choose the **Bullets and Numbering** option. You will see the **Bullets and Numbering** dialog box.
- ✦ Choose any option of your choice and click on **OK**.

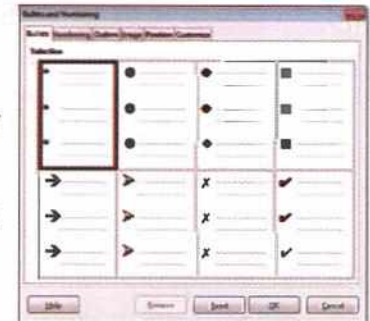


Fig. 6.14: Bullets and Numbering dialog Box

The Bullets and Numbering dialog box contains the following six different tabs. Let us learn about them:

Bullets	It is used for selecting different type of bullets.
Numbering	It is used for selecting different types of numbering.
Outline	It is used to selecting a mixture of numbers bullets and letters in hierarchical form.
Image	It is used to select different graphics style bullets.
Position	It is used to set indents, spacing, and alignment for bullets and numbers.
Customize	It is used to define a custom bulleted or numbering list.

ASSIGNING BORDER AND BACKGROUND TO A PARAGRAPH

Different borders and background color can be easily applied to paragraphs in LibreOffice Writer. The borders can be added to any or all sides of a paragraph. Follow these steps to apply a border and background to a paragraph:

- Select a paragraph to apply border and background.
- Click on the **Format** menu and select the **Paragraph** option.
- The **Paragraph** dialog box appears.
- Click on the **Borders** tab, and select the required border under Line Arrangement.
- Select the border line style in Style drop-down box.
- Select the border width in Width drop-down box.
- Select the border color in Color drop-down box.
- Now, click on the **Area** tab in the Paragraph dialog box.
- Click on the **Color** button to get the color palette.
- Select the required background color.
- Click on **OK**. The changes done by you will be applied immediately to the selected paragraph.

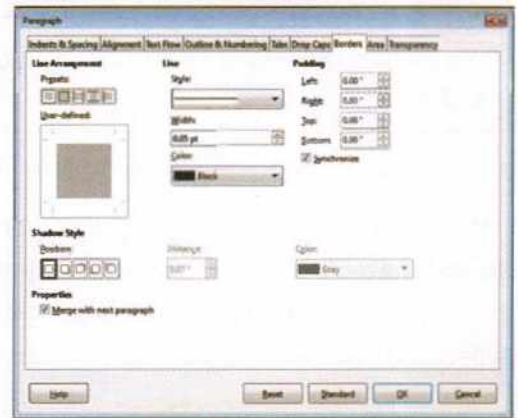


Fig. 6.15: Assigning Border

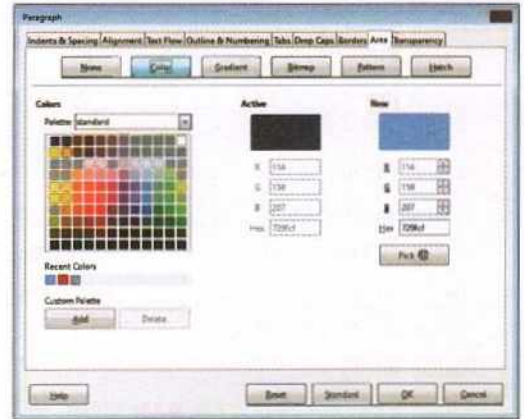


Fig. 6.16: Assigning Background

Habits are routines of behavior that are repeated regularly and tend to occur subconsciously. Habitual behavior often goes unnoticed in persons exhibiting it, because a person does not need to engage in self-analysis when undertaking routine tasks.

Fig. 6.17: Assigned Border and Background to a Paragraph

PRACTICE TIME

Type the given text. Let us apply some of the formatting features of LibreOffice Writer.

Mark Zuckerberg is the youngest billionaire. He is the founder of Facebook – a social networking site, which he started in 2004 with his room-mates Dustin Moskovitz and Chris Hughes. He was born on 14 May 1984 in New York, USA. His father Edward Zuckerberg is a dentist and mother Karen Zuckerberg works as a psychiatrist.

Mark always enjoyed developing computer programs, especially communication tools and games. In one such program, since his father's dental practice was operated from their home, he built a software program called "Zucknet" that allowed the computers between the house and dental clinic to communicate with each other. It is considered a "primitive" version of AOL's Instant Messenger.

At Harvard, he was quite popular for developing new software. He was popular as a programming prodigy. By the end of 2004, Facebook had one million users. This number increased to 5.5 million users by the end of 2005. Later, he dropped out of his college for making Facebook his full time activity.

ACHIEVEMENTS OF ZUCKERBERG

Year	Award
------	-------

2011	The Jerusalem Post ranked him first in the list of "Most Influential Jews of the world".
------------	--

2010	Times Magazine awarded him with the title, "Time's Person of the Year".
------------	---

INSTRUCTIONS

- ✦ Select the text, 'Mark Zuckerberg' in the first paragraph.
- ✦ Click on the Font Name drop-down arrow on the Formatting toolbar and select a font. For example, select Arial Black font.
- ✦ Click on the Font Size drop-down arrow on the Formatting toolbar and select a font size. For example, select 18.
- ✦ Now, select the word 'Facebook' in the second sentence of the first paragraph. Apply bold, Italic, and underline effects to it by using the Bold, Italic, and Underline commands on the Formatting toolbar.
- ✦ Select first two paragraphs and align them in center by clicking on the Align Center button on the Formatting toolbar.
- ✦ Select the words 'Times magazine' and 'Time's Person of the Year' in the last line of the document. Convert the case into uppercase by clicking on Format>Text>UPPERCASE.
- ✦ Select the 'Achievements of Zuckerberg' and assign a border and background color to it by using the Paragraph dialog box.

PAGE FORMATTING

Page formatting means making changes in default settings of page. It includes settings of page layout, size, orientation, margins, etc. Page formatting is performed, if the default page settings do not meet your requirement. LibreOffice Writer allows provides different options using that you can format your document easily.

SETTING UP THE BASIC PAGE LAYOUT USING STYLES

When you launch the LibreOffice Writer on your computer, it opens with a blank document that has some default settings and styles such as page size, margins, header and footer, border, background number of columns, etc. To make changes in these default settings to setup your own page layout, follow these steps:

- ✦ Open the LibreOffice Writer on your computer.
- ✦ Click on the **Format** menu and choose the **Page** option.
- ✦ The **Page Style** dialog box appears.
- ✦ Select the **Page** tab, if not selected by default.
- ✦ Here, make changes in default paper format, margins, layout settings, background settings, etc.
- ✦ Click on **OK**. The changes done by you will be applied immediately.

INSERTING A PAGE BREAK

Page break is an important feature of LibreOffice Writer. It allows you to insert a break in the page, and moves the cursor on the new page.

When you fill a page with text or graphics, LibreOffice Writer inserts an automatic page break and starts the new page.

But, if you want to move to the next page forcefully, you can insert a page break.

Even if you have a large document and you want to move some text to the beginning of the next page, then you can insert a page break.

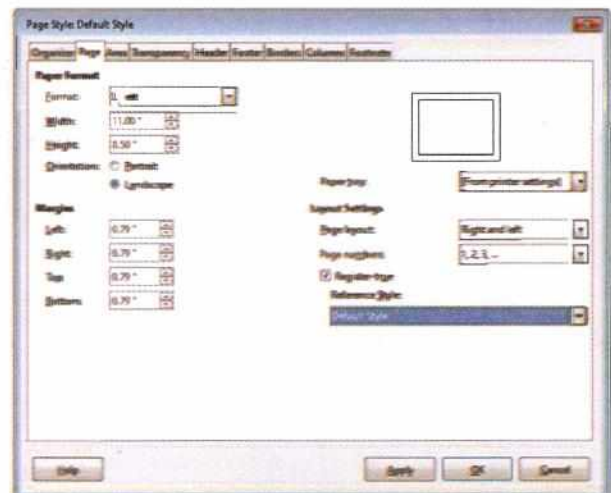


Fig. 6.18: Making changes in default settings of page

Follow these steps to insert a page break:

- ✦ Position the cursor in the document where you want to insert a page break.
- ✦ Click on the **Insert** menu and select the **Page Break** option. Or
- ✦ Press **Ctrl+Enter**. The text from the cursor's position will move to the beginning of the next page automatically.

INSERTING HEADER/FOOTER AND PAGE NUMBERS

You must have noticed that usually the title of the chapter is present at the top of the page and the page numbers appear at the bottom. In literary terms, they are called header and footer, since they appear at the top and bottom of the page, respectively.

Header and **Footer** are the identifiers that respectively run across the top and bottom of the document. They include information like, page numbers, date, title of a book or chapter, author's name, and slide show theme, etc. They can also be modified later. Whenever you need to repeat certain text or graphics on each page, you can use a header or footer. It is a time saving technique.

To insert header/footer and page numbers, follow these steps:

- ✦ Click on the **Insert** menu and select the **Header and Footer** option.
- ✦ A submenu appears. Select **Header > Default**.
- ✦ The cursor will be in the header area. Type the required header. For example, type 'Computer Applications'.
- ✦ Click outside the header area to complete your entry.
- ✦ Now, to insert a footer, click on **Insert>Header and Footer>Footer > Default**.
- ✦ The cursor will be in the footer area.
- ✦ Type the required footer.
- ✦ To insert the Page number in footer area, click on **Insert>Page Number**.
- ✦ Click outside the footer area to complete your entry.

Let's Know More

The distance between the written text and the edge of the paper is called margin. Rulers display the position of the margins. Margins are important elements of a document as they set the boundaries of a page.

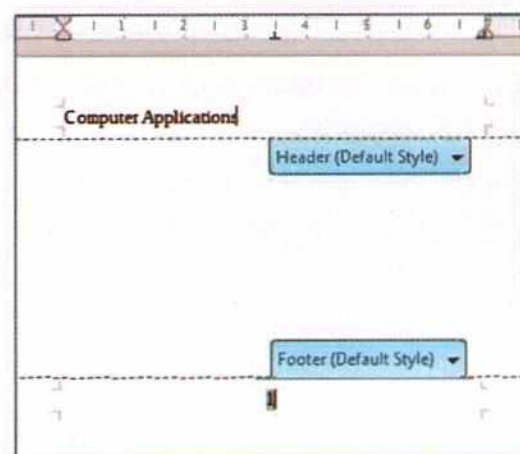
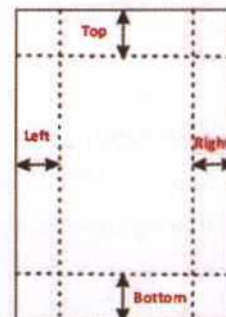


Fig. 6.19: Inserting Header/Footer and Page Numbers

NOTE

Double-click at the top or bottom of any page to insert a header or footer.

DEFINING BORDERS AND BACKGROUNDS IN A DOCUMENT

In LibreOffice Writer, you can assign borders and backgrounds for the entire document as well.

Follow these steps to assign a border and background to a document:

- ✦ Open the document.
- ✦ Click on the **Format** menu and select the **Page** option. The **Page Style** dialog box appears.
- ✦ Click on the **Borders** tab, and select the required border under **Line Arrangement**.
- ✦ Select the border line **style** in Style drop-down box.

- ✦ Select the border width in **Width** drop-down box.
- ✦ Select the border color in **Color** drop-down box.
- ✦ Now, click on the **Area** tab in the **Page** dialog box.
- ✦ Click on the **Color** button to get the color palette.
- ✦ Select the required background color. Or
- ✦ Click on the **Gradient** button to get the gradient options. Select the required gradient; define type of gradient, such as **Liner**, **Radial**, etc. Or
- ✦ Click on the **Bitmap** button, you will get the different bitmap images. Select the required image or add a bitmap of your choice by clicking on the **Add/Import** button.
- ✦ Click on the **Pattern** button or **Hatch** button, you will get different pattern or hatch. Select the required pattern or hatch.
- ✦ Click on **OK**. The changes done by you will be applied immediately to the entire document.

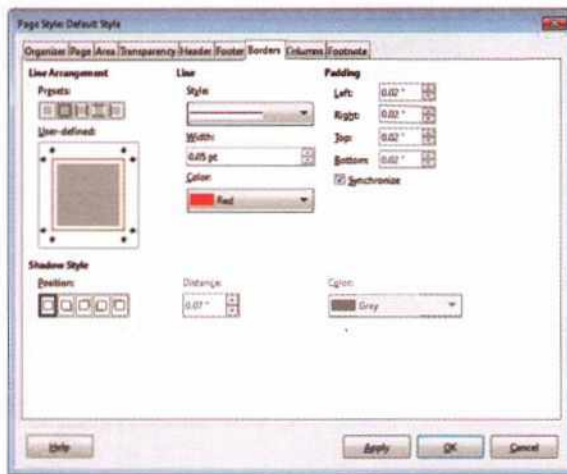


Fig. 6.20: Defining Page Border

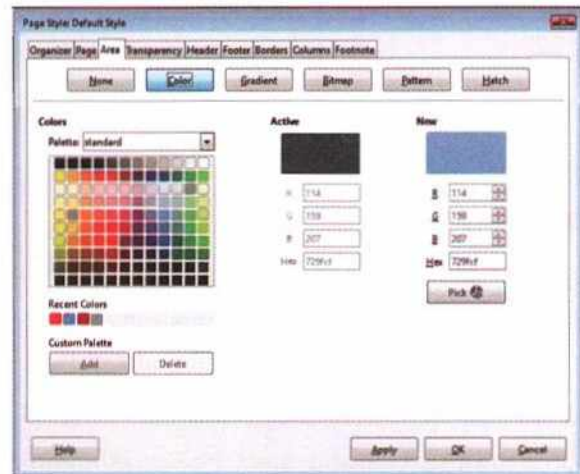


Figure 6.21: Defining Page Background

DIVIDING A PAGE INTO COLUMNS

You may have seen newspapers, magazines and some other documents that contain text in form of columns. Generally, columns are included in a document to improve its readability. The Columns feature of LibreOffice Writer lets you divide the page vertically into two or more columns. The text you type runs down the first column until it is full and then it starts at the top of the second column. When second column is full, the text begins to fill the third column, and so on.

To divide a page into columns, follow these steps:

- ✦ Open the document.
- ✦ Click on the **Format** menu and then click on **Columns**.
- ✦ The **Columns** dialog box appears.
- ✦ Select the required number of **columns** in **Columns** box.
- ✦ Enter the value for spacing in the **Spacing** box to set spacing between columns.
- ✦ Click on **OK**. Now, type the text. It will appear in form of columns.

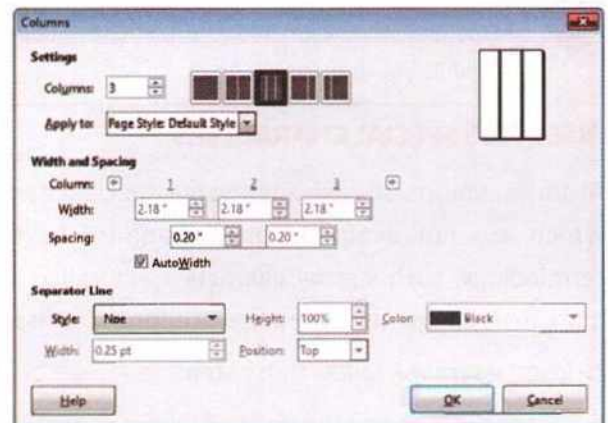


Fig. 6.22: Columns Dialog Box

INSERTING IMAGES, SHAPES, AND SPECIAL CHARACTERS

When you create a document, you may need to include some graphic illustrations. Graphics are added in documents for a variety of reasons. For example, to support the description provided in the text or to provide an immediate visual impact of the contents.

INSERTING IMAGES

You may save pictures on your computer from a variety of sources. For example, they may be downloaded from the internet, scanned, or created with a graphics program, or they may be photos taken with a digital camera. So, the pictures available on your computer can easily be inserted in the LibreOffice Writer document.

To insert an image in your document, follow these steps:

- Click on the **Insert** tab and select the **Image** option.
- The **Insert Image** dialog box appears.
- Browse the picture you wish to insert.
- Choose the desired file and click on the **Open** button.
- The selected image will be inserted in the document.

INSERTING SHAPES

In LibreOffice Writer, shapes is a drawing feature that helps you to draw different shapes like stars, banners, callouts, connectors, etc. With the help of these shapes, you can draw attention and provide impact to your message. To insert a shape, follow these steps:

- Click on the **Insert** tab and select the **Shape** option.
- A submenu appears that shows you a list of options such as Lines, Basic, Arrow, Symbol, Star, Callout and Flowchart.
- Select the required option and further select a shape. For example, select **Smiley Face** under Symbol.
- The pointer changes to '+' cross hair symbol. Drag it on the working area to draw the shape.

Tip To maintain the height and width ratio of a shape, hold down the **Shift** key while you drag the shape.

INSERTING SPECIAL CHARACTERS

At times, you must have seen some special characters in documents, which are not available on a standard keyboard. In computer terminology, such special characters are called symbols. A particular mark that represents some piece of information is called a **symbol**.

To insert a **symbol**, follow these steps:

- Place the cursor at the position where you want to insert a symbol.
- Click on the **Insert** menu and select the **Special Character** option.



Fig. 6.23: Insert Image Dialog Box

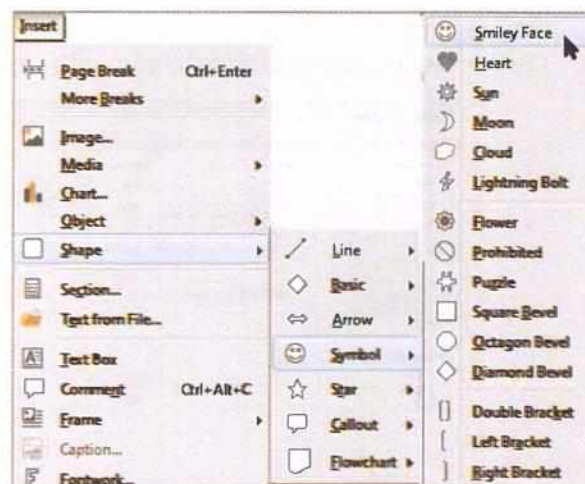


Fig. 6.24: Inserting a Shape



Fig. 6.25: Inserted Shape



Fig. 6.26: Special Character Dialog Box

- ✦ The **Special Character** dialog box appears.
- ✦ Choose the desired symbol and click on the **Insert** button. Selected symbol will appear at the cursor's position.

FORMATTING THE SHAPE OR IMAGE

In LibreOffice Writer, you can format an inserted image or shape. For example, you can resize and rotate it, and add artistic effects or change the shape of a picture any time.

Resizing an image or a shape: To resize an image or a shape, select the image or shape. Now, bring the pointer on any corner handle and drag it in or out to make the selected object smaller or bigger, respectively. Corner handles help to increase and decrease the size diagonally. Apart from the corner handles, an image or a shape also has four side handles. Drag any side handle in or out to shrink or stretch the selected object in a direction.



Fig. 6.27: Resizing an Image Diagonally



Fig. 6.28: Resizing an Image in a Direction


Rotating an image or a shape: To rotate an image or a shape, select the image or shape. Click on the **rotate**  button on the **Image** toolbar. Four rotation handles appear. Now, bring the pointer on the rotation handle and drag it clock-wise or anti-clockwise to rotate the image or shape.



Fig. 6.29: Rotating image

NOTE

When you insert or select an image or shape, two toolbars appear — **Frame** toolbar and **Image** toolbar. Make use of these toolbar to perform the required changes.

ASSESSMENT TIME

Answer the Following Questions:

1. What is formatting?
2. List the different types of formatting.
3. What is the use of Page Style dialog box?
4. What are the shortcuts for bold, italics, and underline.
5. What is the difference between bulleted and numbered lists?
6. Name the different categories of text alignments.
7. What are the different types of horizontal text alignments?
8. What is indent?
9. How is a page break useful?
10. What are header and footers?



ACTIVITY ZONE

For Better Concept Clarity

1. Open a document, select the text and make the first sentence bold, second underlined, and third italicized. Make the font color blue. Capitalize each word in the last sentence. Try to apply more of the effects that you have learnt in the chapter and save the document.
2. Write down five ways to save water. Transform it to a numbered list. Then convert it into a bulleted list. Finally, select the list and remove the bullets.
3. Type a paragraph and first align the text left, then right, and then center. Then, apply first-line indent.
4. Select a paragraph in your document. Make a border around it with thick solid line style and width of 3/4pt. Also, assign a background color to it.



Recap



- ★ Word processing is the use of computer software (a word processor) to enter, edit, format, store, retrieve and print the document.
- ★ A word processor provides an easier and faster method to type the text.
- ★ LibreOffice Writer is a popular word processor. It is the part of LibreOffice Suite which is free and open source software.
- ★ By default, the LibreOffice Writer application opens a blank document with the temporary name Untitled 1.
- ★ LibreOffice Writer window has many parts, such as Title bar, Menu bar, Standard Toolbar, Formatting Toolbar, Rulers, Scrollbar, Sidebar and Status bar.
- ★ A template is a set of predefined styles and settings that is used to create a new document.
- ★ To save a file in Writer, click on the File>Save or File>Save As or press Ctrl + S.
- ★ The Save command saves the changes done by you in the existing document. It shows a dialog box to assign name to the file, if you are saving it first time.
- ★ The Save As command shows the dialog box to save the existing file with a new name, and it keeps the original file as it is.
- ★ The default file extension of LibreOffice Writer is .odt.
- ★ The vertical blinking line in the Document window is called Cursor.
- ★ The Mouse Pointer changes its shape into I-beam when you bring it over the text, and referred a Text Select cursor.
- ★ Formatting means changing the overall look of a document.
- ★ Text formatting is applied in a document to enhance the appearance of text and individual character.
- ★ The Formatting toolbar holds the common text formatting options such as Font Name, Font Size, Bold, Italic, Underline, Font Color and so on.

- ✦ **Superscript** places the text slightly above the line of text whereas **subscript** places the texts slightly below the text baseline.
- ✦ The distance between the text boundaries and the page margins is called Indent.
- ✦ The Page break feature allows you to insert a break in the page, and moves the cursor to the new page.
- ✦ Header and Footer are the identifiers that respectively run across the top and bottom of the document.
- ✦ The Columns feature of LibreOffice Writer lets you divide the page vertically into two or more columns.
- ✦ Using the Columns dialog box, you can insert columns in your document.
- ✦ A particular mark that represents some piece of information is called a symbol.
- ✦ Editing text means making corrections to it, and manipulating text in a manner that would lead to the desired end result.
- ✦ The Undo command allows you to cancel the last action performed.
- ✦ The Redo command reverses the action which is performed by the Undo command.
- ✦ The Find & Replace feature of LibreOffice Writer automates the process of search as well as replacement of the text.
- ✦ By using the Go to Page command of Edit menu, you can directly jump from one page to another easily and quickly.
- ✦ Non-printing characters are the characters that do not appear in a printed document.



BRAIN DEVELOPER

SECTION 1: OBJECTIVE TYPE QUESTIONS-(SOLVED)

A. Multiple Choice Questions:

1. LibreOffice Writer is a popular application.

a. Database	b. Presentation	c. Word processing	d. Graphic
-------------	-----------------	--------------------	------------
2. The LibreOffice Writer application opens a new document with the temporary name

a. Document	b. Book	c. Untitled 1	d. Book 1
-------------	---------	---------------	-----------
3. The larger window of the Writer program is called window.

a. Application	b. Document	c. Image	d. None of these
----------------	-------------	----------	------------------
4. Where do you type the text in LibreOffice Writer?

a. Text box	b. Document window
c. Application window	d. None of these
5. The vertical ruler formats the alignment of text.

a. Top	b. Right	c. Vertical	d. Horizontal
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6. The status bar is located at the of the LibreOffice Writer window.
 - a. Top
 - b. Centre
 - c. Left
 - d. Bottom
7. Which menu contains the New option?
 - a. Edit
 - b. File
 - c. Format
 - d. Tools
8. Which option allows you to save an existing file with a new name?
 - a. Save
 - b. Save As
 - c. Save a Copy
 - d. All of these
9. What is the file extension of LibreOffice Writer document?
 - a. .odt
 - b. .odp
 - c. .odd
 - d. .odw
10. Which of the following is a keyboard shortcut to open an existing document?
 - a. Ctrl+O
 - b. Ctrl+F
 - c. Ctrl+ N
 - d. Ctrl+S
11. Which of the following is a keyboard shortcut to perform undo?
 - a. Ctrl+C
 - b. Ctrl+Y
 - c. Ctrl+X
 - d. Ctrl+Z
12. This key is pressed when you select non-consecutive text.
 - a. Ctrl
 - b. Alt
 - c. Shift
 - d. Tab
13. is a temporary storage location.
 - a. Clipboard
 - b. Rulers
 - c. Menu bar
 - d. Toolbar
14. On which toolbar do you find the Check Spelling button?
 - a. Formatting
 - b. Standard
 - c. Drawing
 - d. Tools
15. Which of the following keyboard shortcut is used to remove the formatting?
 - a. Ctrl+L
 - b. Ctrl+M
 - c. Ctrl+N
 - d. Ctrl+Z
16. Which of the following is not available on the formatting toolbar?
 - a. Copy button
 - b. Bold button
 - c. Underline button
 - d. Font Color button
17. This case converts every selected character in the reverse way?
 - a. lowercase
 - b. tOGGLE cASE
 - c. UPPERCASE
 - d. Small Capitals
18. This is a keyboard shortcut to open the 'Go to Page' dialog box.
 - a. Ctrl+U
 - b. Ctrl+G
 - c. Ctrl+P
 - d. Alt+G
19. These characters do not appear in a printed document.
 - a. Non-printing characters
 - b. Symbols
 - c. Letters
 - d. None of these
20. Which of the following is a correct way to access the Image dialog box?
 - a. Insert>image> Picture
 - b. Insert>Shape
 - c. Format>Picture
 - d. Insert>Image

B. Fill in the Blanks:

1. LibreOffice Suite which is and software.
2. A refers to a set of written pages.
3. The term WYSIWYG stands for
4. Writer is a part of
5. The menu holds different views for document.
6. A is a set of predefined styles and settings that is used to create a new document.

7. You can move the cursor in a document by using the Keys.
8. The I-beam mouse pointer is referred to as acursor.
9. Thefacilitates easy access and navigation between pages and different objects.
10. You press the keys to open the Template dialog box.
11. Thecommand is highlighted when you have performed the Undo operation
12. Thelines indicate the spelling errors.
13. A paragraph mark (¶) is an example of mark.
14. The distance between the text boundaries and the page margins is called..... .
15. To maintain the height and width ratio of a shape, hold down thekey

ANSWERS

A. Multiple Choice Questions

1.(c) 2.(c) 3.(a) 4.(b) 5.(c) 6.(d) 7.(b) 8.(b) 9.(a) 10.(a) 11.(d) 12.(a) 13.(a) 14.(b) 15.(d) 16.(a) 17.(b) 18.(b) 19.(a) 20.(d)

B. Fill in the Blanks

1. Free, Open Source 2. Document 3. What You See Is What You Get 4. LibreOffice Suite 5. View 6. Template 7. Cursor Control
8. Text Select 9. Navigator 10. Ctrl+Shift+N 11. Redo 12. Red wavy 13. Formatting 14. Indent 15. Shift

SECTION 2: THEORY QUESTIONS-(SOLVED)

1. What is word processing?

Ans: Word processing is the use of computer software (a word processor) to enter, edit, format, store, retrieve, and print the document.

2. What is word processor?

Ans: A word processor is application software, which is capable of creating, editing, saving, and printing documents.

3. Write names of any two word processor applications?

Ans: Microsoft Word and LibreOffice Writer

4. What is menu bar in LibreOffice Writer?

Ans: This bar contains all the menu options present in the LibreOffice Writer application. When you select a menu, a submenu appears. Some submenu items show right hand side arrow next to the submenu name, which indicates that there is another submenu.

5. Distinguish between Standard toolbar and Formatting toolbar.

Ans: **Standard toolbar:** The Standard toolbar displays the icons of the commonly used commands such Save, Undo, Redo, New, Open, Cut, Copy, Paste, etc.

Formatting toolbar: The Formatting toolbar contains the commonly used commands to format and beautify the text. It displays Font Name, Font Size, Font Color, Alignment icons, Bullets and Numbering icons, Indents and Highlighting icons on it.

6. List the three different ways of creating a blank document in LibreOffice Writer.

Ans: You can create a blank document in Writer in three ways:

- + Click on the **File** menu. Select the **New** option. The submenu appears. Select the submenu document option. Or
- + Press **Ctrl+N** key combination. Or
- + Click on the **New** button located on the Standard toolbar. The new document appears.

7. How a toolbar is different from a menu bar?

Ans: The main difference between a toolbar and a menu bar is that a toolbar contains graphical icons that can be used to access the commands directly and quickly. Clicking on a toolbar icon immediately executes the command.

On the other hand, a menu bar contains all the menus present in the application. Clicking on a menu opens up a submenu. For example, in LibreOffice Writer, when we click on File menu, a submenu appears that displays a list of options, such as New, Save, Print, etc.

8. Describe the File menu of Writer.

Ans: By clicking on the File menu, we can create a new file, open an existing file, save a file, print a file, and perform other tasks.

9. Describe Undo and Redo commands.

Ans: The Undo command allows you to cancel the last action performed whereas the Redo command reverses the action which is performed by the Undo command.

10. How do you select a vertical block of text?

Ans: To select a vertical block or a column of text that is separated by spaces or tabs, click on **Edit>Selection Mode>Block Area** or press **Alt+Shift+F8**. Now, drag the mouse to select a text. You will observe vertical selection.

11. How do you copy text?

Ans: Copying text means to keep the text at the original location as well as copy it to another location. To copy text, right-click on the selected text and select **Copy**. Now, place the pointer at the new position. Right-click and select **Paste**.

12. What is the use of Cut and Paste commands?

Ans: The **Cut and Paste** commands are used to move selected text at the new location.

13. How do you move text at the new location in your document?

Ans: To move the selected text at the new location, right-click on the selected text and select the **Cut** option. Bring the pointer at the location where you want to paste the text. Right-click on that location and select the **Paste** option.

14. What is clipboard?

Ans: Clipboard is a temporary storage location that can be used for short-term data storage and/or data transfer operations between documents or applications, using copy-paste or cut-paste operations.

15. Explain Find and Replace.

Ans: The LibreOffice Writer has a **Find & Replace** feature that automates the process of search as well as replacement of the text. This feature proves beneficial while looking for specific words in a large document.

16. What are formatting marks? Why are they used?

Ans: Non-printing characters are also known as formatting marks. These are basically used for formatting the document. The most common non-printable characters in word processors are space (.), non-breaking space (o), tab character (→), Line break (↵), and paragraph mark (¶)

17. How does LibreOffice Writer help you to keep your document error free?

Ans: LibreOffice Writer has a built-in dictionary and a set of grammatical rules to check the spellings and grammar of the text document. Thus, it reduces the chances of errors in a document. LibreOffice Writer uses the following wavy lines to indicate the errors:

- + A red wavy line under a word signifies the misspelled word.
- + A green wavy line under any word or sentence indicates a grammatical error.
- + A blue wavy line under a word refers to a contextual spelling error.

18. What do you understand by Thesaurus? Explain any one method to replace a word with its synonym.

Ans: Thesaurus is a built-in dictionary that enables you to look up synonyms, antonyms, word substitutes, and alternative spellings. This feature increases your writing abilities and vocabulary that helps you to understand the text better. When you look up a word in the thesaurus, it will provide you a list of alternative words which you can use in place of an existing word.

- + Right-click on the word whose synonym you would like to find.
- + The shortcut menu appears. Choose a **Synonym** option from the list.
- + A submenu appears displaying the list of words with similar meaning.
- + Select the suitable synonym.
- + You will find that the word in the document is replaced with the selected one.

19. What is formatting? Explain different types of formatting that you can apply in your document?

Ans: Formatting means changing the overall look of a document. In LibreOffice Writer, you can apply different types of formatting — text formatting, paragraph formatting, and page formatting.

20. How can you change case of selected text in your document?

Ans: To change case of selected text, follow these steps:

- + Select the text which case is to be changed.
- + Click on the **Format** menu and then click on **Text**.
- + A submenu appears. Select the required case.

21. Which toolbar contains the common text formatting commands?

Ans: The formatting toolbar contains the common text formatting commands such as Font Name, Font Size, Font Color, Bold, Italic, underline, and so on.

22. How can you assign a border to a paragraph?

Ans: To assign a border to a paragraph, select a paragraph, click on **Format > Paragraph**. The Paragraph dialog box appears. Click on the **Borders** tab, and select the required border, border style, width, and color. Click on **OK**.

23. What is Page break? How do you insert in a document?

Ans: Page break is an important feature of LibreOffice Writer. It allows you to insert a break in the page, and moves the cursor on the new page. To insert a page break, position the cursor where you want to insert a page break, and then click on **Insert > Page Break**.

24. What are headers and footers? How do you insert them in your document?

Ans: Header and Footer are the little identifiers that respectively run across the top and bottom of the document. They include such information, like page numbers, date, title of a book or chapters, author's name and slide show theme, etc. To insert header/footer, click on **Insert > Header and Footer > Header/Footer > Default**. Type required header or footer and click outside, once completed.

25. What are columns? How do you divide a page into columns?

Ans: The Columns feature allows you divide the page vertically into two or more columns. To divide a page into columns, click on **Format > Columns**. The **Columns** dialog box appears. Select the required number of columns, give spacing, and click on **OK**.

SECTION 3: THEORY QUESTIONS-(UNSOLVED)

1. What is LibreOffice Suite?
2. What are the different components of the LibreOffice Writer window?
3. Explain the Application and Document windows of the LibreOffice Writer.

4. How can you save a document in LibreOffice Writer?
5. How do you open an existing file in LibreOffice Writer?
6. Describe the use of Navigator.
7. Describe I-beam mouse pointer.
8. What is the difference between Find, and Find & Replace option?
9. What is the difference between Replace and Replace All?
10. Describe text formatting.
11. What is the difference between superscript and subscript?
12. What is indent? How do you insert indent in your document.
13. How do you open the Page Style dialog box?
14. What is Page break?
15. How can you insert symbols in your document?

SECTION 4: APPLICATION BASED QUESTIONS-(SOLVED)

1. Rajan is confused about the functions of all the shortcut key combinations, he has learnt till now. So, help him to fill the following table?

Shortcut Key	Functions
Ctrl+A	
Ctrl+N	
Ctrl+S	
Ctrl+X	
Ctrl+C	
Ctrl+V	
Ctrl+O	

Ans:

Shortcut Key	Functions
Ctrl+A	Select the entire document.
Ctrl+N	Create a new blank document.
Ctrl+S	Save your document.
Ctrl+X	Cut the selected text.
Ctrl+C	Copy the selected text.
Ctrl+V	Paste the selected text.
Ctrl+O	Open an existing document.

2. Emma was asked to write a few lines on the topic 'Habits' in notebook. While checking, her teacher found a few spelling mistakes. The teacher asked her to type the same text in Word and also asked her to correct the spelling mistakes and then submit the hard copy. Help Emma to complete the assignment by guiding her with relevant steps.

Ans. Emma has typed the following text in Writer:

HABITS

Habits are routines of behaviour that are repeated **regularly** and tend to occur subconsciously. Habitual behaviour often goes unnoticed in persons exhibiting it, because a person does not need to engage in self-analysis when undertaking routine tasks. **Harbituation** is an extremely **simple** form of **lerning**, in which an organism, after a period of exposure to a stimulus, stops responding to that stimulus in varied manners. Habits are sometimes **compulsary**.

- ✦ The red wavy lines mark the presence of spelling mistakes.
 - ✦ Open the **Spelling** dialog box by pressing the **F7** function key.
 - ✦ From the **Suggestions** box, select the correct word that fits in place of the misspelled word and click on the **Change** button.
3. Your teacher has asked you to write two paragraphs on the topic 'Habits'. After completing this task, the teacher wants you to find all the keywords matching the word, 'Habits' and replace them by the keyword, 'Daily Actions'. Support your answer with the relevant screen shots.

Ans. You have written the following text on **Habits**.

HABITS

Habits are routines of behaviour that are repeated regularly and tend to occur subconsciously. Habitual behaviour often goes unnoticed in persons exhibiting it, because a person does not need to engage in self-analysis when undertaking routine tasks. Habituation is an extremely simple form of learning, in which an organism, after a period of exposure to a stimulus, stops responding to that stimulus in varied manners. Habits are sometimes compulsory.

- ✦ On the **Standard** toolbar, click on the **Find & Replace** button
 - ✦ The **Find and Replace** dialog box appears.
 - ✦ In the **Find** field, enter the keyword **Habits**.
 - ✦ In the **Replace** section, enter the keyword **Daily Actions** and click on the **Replace All** button. Observe the change.
4. Rahul was asked to compose an essay on Good Manners. He forgot about this assignment and copied the following essay from the Internet. However, there were some errors in the essay. The conclusion was in the beginning and the introduction was immediately after the conclusion. How will Rahul fix this issue?



- Ans. Select the conclusion paragraph and cut it using keys **Ctrl+X**. Move the cursor to the end of the essay and paste it using **Ctrl+V**. In this way the conclusion paragraph will shift to the end.
5. Saumya has prepared a small algorithm to copy and paste a piece of text to a new location. She has made some mistakes in the order of steps. Use the Editing features of Cut and Paste to rectify the order.
- a) Select the desired text.
 - b) Paste it in the new location.
 - c) Copy the selected text.

Ans: The mistake lies in step (b) and (c). Select step (c). Now press **Ctrl+X**. Bring it to the position of step (b). Now press **Ctrl+V** to paste that step. Step (b) automatically moves to the next line. Hence, the correct algorithm is:

- a) Select the desired text.
- b) Copy the selected text.
- c) Paste it in the new location.

6. The computer teacher found Kabir talking in the class. As a punishment, his teacher asked him to write "I am Sorry" five times in a Word processor. Suggest him a shortcut so that he does not have to write the text again and again.

Ans: Write once, "I am Sorry". Select the entire sentence and press Ctrl+C. Now, press Ctrl+V four times and you will see the output as: I am Sorry. I am Sorry. I am Sorry. I am Sorry. I am Sorry.

SECTION 5: APPLICATION BASED QUESTIONS-(UNSOLVED)

1. The teacher has asked Ramya to create and save a new document in LibreOffice Writer using the Shortcut key combination. Help her in finishing this task.
2. Subodh's teacher has given him a task to type a slogan 'Keep Your School Clean' for 50 times. Suggest him a shortcut, so that he could finish his assignment quickly.
3. Anamika has written an essay on 'Festivals of India' in LibreOffice Writer. She has discussed Christmas before Diwali. Her teacher has asked her to change the order of the paragraphs. Suggest her the method to move a paragraph and paste it at the end by using the shortcut keys.
4. Ashish has downloaded an article on 'Plight of Women in India' from the Internet. The article has a lot of spelling errors and the points within the article have not been marked properly. Which features will you suggest him to use in order to make the article error free and presentable?
5. Abhijeet is a poet. He wants to write a poem on 'India' using Writer. He wishes to write every single line in a different font style. Can you suggest him some features of the Writer using which he can write his poem with different font styles?
6. Hotel 'The Marriott' is hosting a seminar which emphasizes on the growing needs of Hospitality business. This seminar will be attended only by the male owners of different hotels. But by mistake, the receptionist of the hotel typed the title 'Mrs' in place of 'Mr' before the names of all the invitees. What method will you suggest to the receptionist to rectify the mistake without wasting much time?



ACTIVITY ZONE

For Better Concept Clarity

1. Let us write three paragraphs on the topic "Life is an Action, Not Contemplation".

Life offers many opportunities to us, to succeed, if seen closely. But action is required for it. Goethe, a German philosopher rightly remarked that 'life is action, not contemplation'. Even Charles Darwin proved that life is a continuous struggle for the 'survival of the fittest'.

One who is not suitable perishes-this is the nature's law. Action is necessary to adjust ourselves in any possible circumstance. Dreams are the necessary propellers but life itself is not merely dreams or a reverie. Sitting on a chair and brooding; man would never have been able to reach the moon. But man thought, imagined, and strove.

A life of thought and reflection will be futile if man does not try to make it come true in real life. That does not mean contemplation is futile and vain. No! in fact all great ideals and philosophies are the outcome of great men's contemplation. But these philosophies and ideals would have easily been forgotten, if they had not been applied to real life.

- ✦ Swap the positions of paragraph 2 and 3.
- ✦ Copy the first paragraph and paste it in the end.
- ✦ Insert two new lines between Line 1 and Line 2 of second paragraph. Make sure your text does not overwrite the existing text.
- ✦ Apply the formatting effects as needed that you have learned in Writer.
- ✦ Save the document with the same name as that of the topic.
- ✦ Close the document as well as the Writer application.

2. Type the following text and replace the keyword 'Symbol' with 'Sign' in the entire document. Make use of all the options discussed in the Find and Replace topic.

The Indian rupee has now got a unique symbol, a blend of the Devanagiri 'Ra' and Roman 'R' - thus joining the elite currencies, like US dollar, Euro, British Pound, and Japanese yen in having a distinct identity.

The new symbol, designed by IIT Bombay post-graduate D Udaya Kumar, was approved by the cabinet-reflecting that the Indian currency, backed by an over-trillion dollar economy, was finally making its presence felt on the international scene.

Though the symbol will not be printed or embossed on currency notes or coins, it would be included in the 'Unicode Standard' and major scripts of the world to ensure that it is easily displayed and printed in the electronic and print media. Among currencies with distinctive identities, only the pound sterling has its symbol printed on the notes.



Creating and Using Table

A table is an organized arrangement of text in the form of rows and columns. Table is a useful way to organize and present large amount of information, for example:

- ✦ Technical, Financial or Statistical reports
- ✦ Product catalogues showing descriptions, prices, characteristics, and photographs of products
- ✦ Bills or Invoices
- ✦ Lists of names with address, age, profession, and other information

Tables can often be used as an alternative to spreadsheets to organize data. A well designed table conveys information in a more meaningful way rather than the text written in the form of a paragraph.

CREATING A TABLE

Using Grid

To directly insert a table with the default properties, follow these steps:

- ✦ Click on the **Table** icon on the **Standard** toolbar.

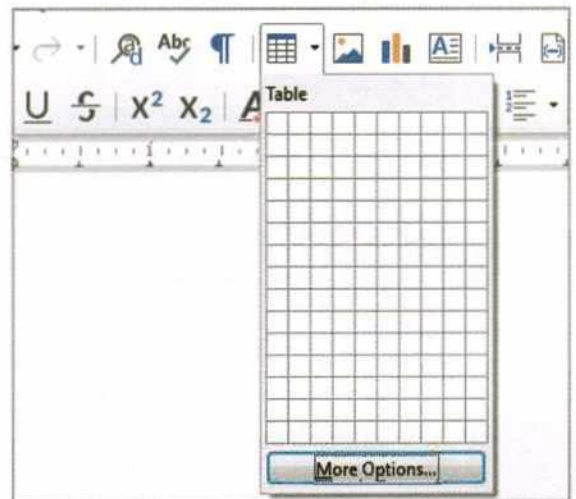


Fig. 7.1: Creating Table through Toolbar

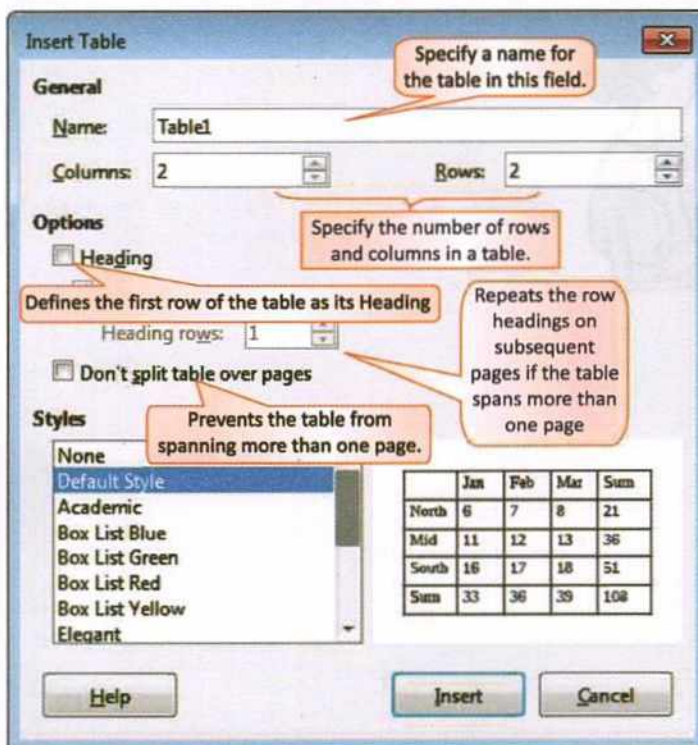


Fig. 7.2: Insert Table Dialog Box

- ✦ A grid of rows and columns will visible. Drag the mouse over the grid to select the required number of rows and columns. Using this option, you can insert maximum 10 columns and 15 rows.

Using Insert Table Dialog Box

To insert a new table using the Insert Table dialog, follow these steps:

- ✦ Select **Insert Table** from the **Table** menu. Or
- ✦ Press **Ctrl+F12**.
- ✦ The **Insert Table** dialog box opens where you can specify the properties for the table.
- ✦ Specify the number of columns and rows under the **General** section.
- ✦ Choose your preferred **Options** and **Style**, if required.
- ✦ Click on **Insert** to insert a table with the mentioned properties.

ENTERING DATA IN A TABLE

- Click inside a cell and type the text. To move to the next adjoining cell, either press the **Tab** key or the **Right Arrow** key.
- To move to the previous cell, either press the **Shift + Tab** key combination or the **Left Arrow** key.
- The **Up** and **Down Arrow** keys will move the insertion point above or below its current location.

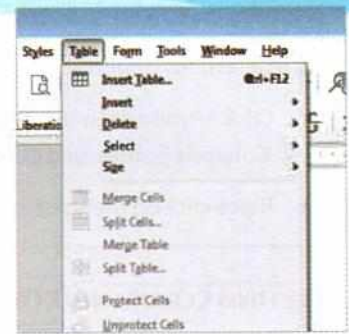


Fig. 7.3: Inserting Table

To select text in a Table:

To Select	Action	Do Like This
A cell	Triple-click inside cell.	
A row	Move the mouse to the left of the row margin and click the left mouse button.	
A column	Place the mouse pointer over the top of the column and click the left mouse button.	
An entire table	Place the mouse pointer over the top left corner of a table and click.	

Fig. 7.4: Selecting Different Parts of a Table

MODIFYING A TABLE

After entering data in a table, you can make changes in the data as needed. You can insert rows, columns or cells in a table to accommodate new contents. Similarly, you can delete unwanted rows, columns or cells from a table.

INSERTING COLUMNS/ROWS IN A TABLE

While creating and making entry in a table, you might need to add rows/columns in between. LibreOffice Writer provides the facility to add columns to right or left of the existing column and insert rows above or below the selected row.

To insert a row/column, follow these steps:

- Click anywhere in the row/column, adjacent to which you want to add the new row(s)/column(s).
- The **Table** toolbar appears. Click on any of the following buttons as per requirement:
 - Rows Above:** Click on the **Rows Above** button to insert a new row above the selected row.
 - Rows Below:** Click on the **Rows Below** button to insert a new row below the selected row.
 - Columns Before:** Click on the **Columns Before** button to insert a new column before the selected column.
 - Columns After:** Click on the **Columns After** button to insert a new column after the selected column.

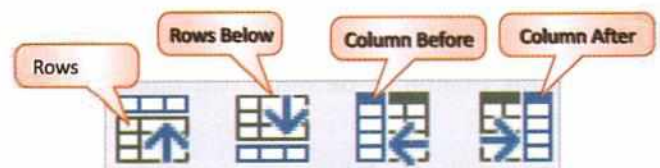


Fig. 7.5: Insert Buttons for Rows and Columns on the Table Toolbar

NOTE

To insert rows/columns:

- ✦ Click anywhere in the row/column and then click on **Table>Insert**. Select a command, such as **Rows Above**, **Rows Below**, **Columns Before**, and **Columns After** as per your requirement. Or
- ✦ Right-click on the selected rows or columns. Select the **Insert** option and choose the desired option.

DELETING COLUMNS/ROWS IN A TABLE

To delete row(s)/column(s), follow these steps:

- ✦ Select row(s) or column(s) which is/are to be deleted.
- ✦ The **Table toolbar** appears. Click on any of the following buttons as per requirement:
 - ✦ **Rows**: Click on the **Rows** button to delete selected rows.
 - ✦ **Columns**: Click on the **Columns** button to delete selected columns.

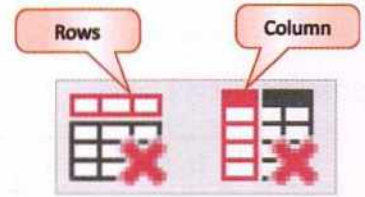


Fig. 7.6: Delete buttons on the Table Toolbar

NOTE

To delete selected rows/columns:

- ✦ Click on **Table>Delete**. Select a command, such as **Rows** or **Columns** as per your requirement. Or
- ✦ Right-click on the selected rows or columns. Select the **Delete** option and click on either **Rows** or **Columns**.

SPLITTING AND MERGING TABLES

Splitting a table means dividing a table into two tables, and merging two tables provide a way to consolidate two tables into one table.

Splitting Tables

To split a table into two, follow these steps:

- ✦ Place the cursor inside a cell from where you want split the table.
- ✦ Click on the **Table** menu.
- ✦ Select the **Split Table** option.
- ✦ The **Split Table** dialog box appears.
- ✦ Select the **Copy heading** option, if you want headings on the split table, or **No heading** option, if you do not want any headings on the table.
- ✦ Click on **OK**. Table will be split into two tables.



Fig. 7.7: Split Table Dialog Box

Name	Class	Subject	City
Pooja	IX	Computer	Delhi

Kavita	IX	Computer	Pune
Mita	IX	Computer	Noida
Soniya	IX	Computer	Noida

Fig. 7.8: Split Table

NOTE

Tables can be split in horizontal manner.

Merging Tables

To merge two tables to make it one, follow these steps:

- ✦ Place the pointer in between two tables and press the **Delete** key to remove the spacing.
- ✦ Select any cell in the **table**.
- ✦ Click on the **Table** menu and select the **Merge Table** option. Both the tables will be merged.

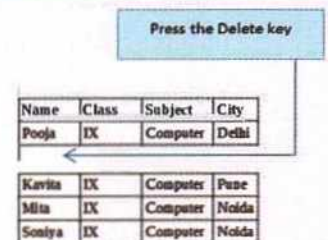


Fig. 7.9: Merging Two Tables

DELETING A TABLE

If you want to delete the entire table from your document, follow these steps:

- ✦ Click anywhere in a table.
- ✦ Click on **Table** menu.
- ✦ Select the **Delete** option then the **Table** option.

COPYING A TABLE

In LibreOffice Writer, you can easily create a copy of table and paste it into another part. To copy a table, follow these steps:

- ✦ Click anywhere in a table.
- ✦ Click on **Table** menu.
- ✦ Choose the **Select** option then the **Table** option.
- ✦ Click on the **Edit** menu and select the **Copy** option or press **Ctrl + C**. Selected table will be copied into the clipboard.
- ✦ Place the cursor where you want to insert a copied table.
- ✦ Click on the **Edit** menu and select the **Paste** option or press **Ctrl + P**. Selected table will be inserted at the cursor's position.

MOVING A TABLE

To move a table from once location to another, follow these steps:

- ✦ Click anywhere in a table.
- ✦ Click on **Table** menu.
- ✦ Choose the **Select** option then the **Table** option.
- ✦ Click on the **Edit** menu and select the **Cut** option or press **Ctrl + X**. Selected table will be disappeared from its original location.
- ✦ Place the cursor where you want to insert the table.
- ✦ Click on the **Edit** menu and select the **Paste** option or press **Ctrl + P**. Table will be displayed at the cursor's position.



ASSESSMENT TIME

Answer the Following Questions:

1. What is a table?
2. What is the difference between a row and a column?
3. What is a cell?
4. What are the different ways of inserting a table?
5. How can you delete a row?
6. How do you split a table?



ACTIVITY ZONE

For Better Concept Clarity

1. Insert a table of three columns and five rows in a document, using the different insertion options available. Then insert a column to the left of the first column and to the right of the last column. Now insert a row above the first row and a row below the last row.
2. Create a list of addresses of your friends along with their date of birth.

Printing a Document

A printed output of a document or an image is called a **hard copy**. From time to time, you need hard copies of your work. Just like any other word processor, the LibreOffice Writer provides the options to print a document, analyse its preview, and control the printing properties.

Quick View



The shortcut to switch to the Full Screen mode is **Ctrl+Shift+J**.

PRINTING A DOCUMENT USING PRINT OPTION

After approving the document's appearance using the Print Preview mode, you are ready to print the active document. Assuming that you have installed a printer, so to take a print out of the current document, click on the **Print** button

 present on the Standard toolbar.

PRINT PREVIEW

What do you do in the final hour before appearing for an exam? Do you study new topics or revise the topics which you have studied till now?

Obviously, you want to review and revise whatever you have learnt till now.

Similarly, LibreOffice Writer provides you a feature to preview a document before you send it for printing. This feature has many advantages:

- It helps you to check whether the written text falls within the page margins or not.
- It helps you to preview the overall formatting of your document.

Let us learn how to use this feature:


- Type some pages of text.
- Click on the **Toggle Print Preview** button  present on the **Standard** toolbar. You can also select the **Print Preview (Ctrl+Shift+O)** option from the **File** menu.
- You will see the preview of your document. This is how the final printout will look.



Fig. 8.1: Previewing the Document

Just above the Print Preview, you will find the **Print Preview** toolbar. You can also select the options from here as per your convenience. Let us discuss the **Print Preview** toolbar.

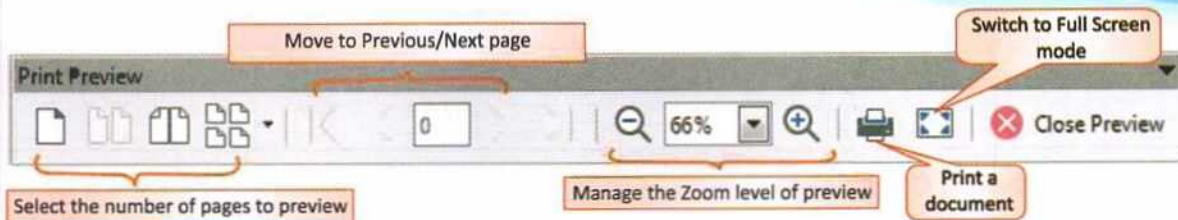


Fig. 8.2: Print Preview Toolbar

CONTROLLING PRINTING

If you want to change the default Print settings, click on the **File** menu and select the **Print** option. You will see the **Print** dialog box.

- Choose the desired number of copies and page settings.
- Select the name of the printer under **Printer**.
- Once you have finished, click on **OK**.
- The printer will print a copy of your current document.

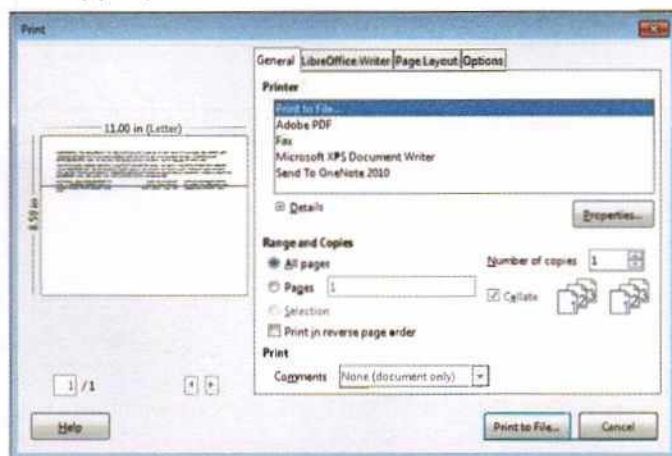


Fig. 8.3: Print Dialog Box

Let's Know More

You cannot edit a document in the Print Preview mode.

PRINTING ALL PAGES, SINGLE PAGES AND MULTIPLE PAGES

The Print dialog box lets you select the pages you want to print and the number of copies you want.

- Click on the **File** menu and then select the **Print** (Ctrl+P) option. The **Print** dialog box will appear.
- Under the **Range and Copies** section, select **All pages** to print all the pages of a document.

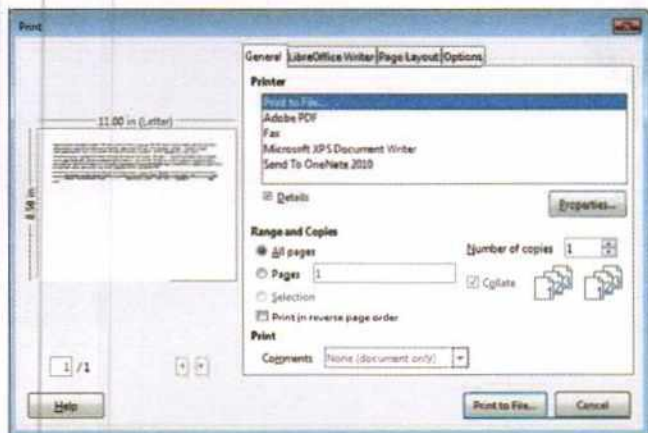


Fig. 8.4: Print Dialog Box

- Select the **Pages** option to print the specified range of pages from the document (like 5-10).
- Selecting the **Selection** option will print only the selected text from the document.
- You can select the "**Print in reverse page order**" option, if you want to print from the last page to first page. This leads to easy arrangement of hard copies of the pages.

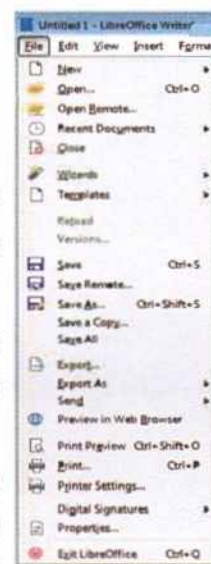


Fig. 8.6: File Menu



Answer the Following Questions:

1. What do you understand by the term hard copy?
2. Why should you preview your document before printing?
3. What is Print Preview?
4. From which toolbar can you access the Toggle Print Preview button?
5. How do you open the Print dialog box?



ACTIVITY ZONE

For Better Concept Clarity

Preview a 5-page document and view each page by zooming them to 150%. Take the printout of the odd numbered pages i.e., 1, 3, 5.



Using Mail Merge

In business or any official matters, it is often required to send letters with similar information to different people. The letters require the name and address of each recipient to be printed on the top. So, changing the address each time would be a very long process and a wastage of time and effort.

In such case, you can use Mail Merge feature of LibreOffice Writer. Let us learn to use mail merge to print letters.

CONCEPT OF MAIL MERGE

The Mail Merge feature is used to combine a data source with the main document. It saves our time and energy to send letters at multiple addresses. It primarily enables automating the process of sending bulk mail to customers, subscribers or general individuals. To perform mail merge, a Writer document is required. Either you can create a new document or use an existing one. The following are some benefits of mail merge:

- ✦ Produce mass mail
- ✦ Make changes in letters easily
- ✦ Much easier to proof read just one letter as compared to thousands of letters
- ✦ A standard letter can be saved and reused multiple times

DATA SOURCE

Data source consists of mailing list. For example, name, address, city, PIN, telephone number, etc. The data is organised in a tabular form along with the field names. The data source is associated with the main document, so its field names can be used in the main document, and it becomes easy to merge addresses along with the main document.

NAME	ADDRESS	CITY	PIN	TEL. NO.
Kabir	#605, Sector 2	Panchkula	134109	2576675
Ridhima	#105, Sector 20	Panchkula	134109	2586498
Anika	#24, Sector 35	Chandigarh	160035	4618090
Manas	#645, Phase 11	Mehali	120145	2264080

Fig. 9.1: Sample Data Source

MAIN DOCUMENT

It is the document that contains the text that you wish to send to all the recipients.

MERGED FIELD

It is a data item, such as NAME, ADDRESS, CITY, PIN, etc., which instructs LibreOffice Writer where to insert the data source (names, addresses) in the main document.

MAIL MERGE IN LIBREOFFICE WRITER

Mail merge involves in the following steps:

- ✦ Creating a main document
- ✦ Creating a data source
- ✦ Entering data in fields

- ✦ Merging the data source with the main document
- ✦ Editing individual document
- ✦ Printing and saving the merged letter

To start the Mail Merge Wizard either to create form, letters or send e-mail messages to many recipients, do the following steps:

- ✦ Choose Tools menu and select the Mail Merge Wizard option.
- ✦ The Mail Merge Wizard opens.

Now follow the given steps.

CREATING A MAIN DOCUMENT

STEP 1: SELECT STARTING DOCUMENT

In the Mail Merge Wizard, specify the document that you want to use as a base for the mail merge document. For example,

- ✦ Select **Use the current document** radio button. This option uses the current Writer document as the base to merge the document with data source.
- ✦ Click on the **Next** button.

STEP 2: SELECT DOCUMENT TYPE

In this step, you have to specify the type of mail merge document to create.

- ✦ Select the '**Letter**' radio button.
- ✦ This option creates a printable mail merge document.

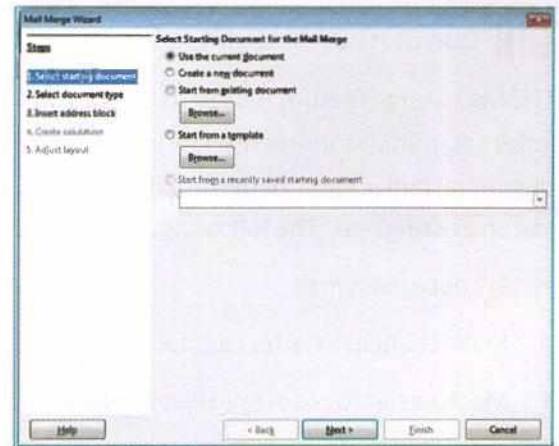


Fig. 9.2: Selecting Document

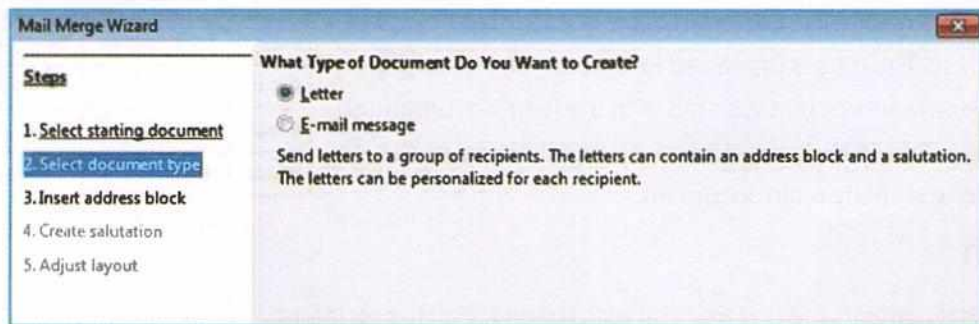


Fig. 9.3: Selecting Document Type

CREATING THE DATA SOURCE

STEP 3: ENTERING DATA IN THE FIELDS

As the name suggests, in this step, you have to specify the recipients for the mail merge document as well as the layout of the address block. Observe, by default the Second checkbox under the **Insert address block** section is selected.

- ✦ Click on the **Select Address List** button.
- ✦ The **Select Address List** dialog box appears.

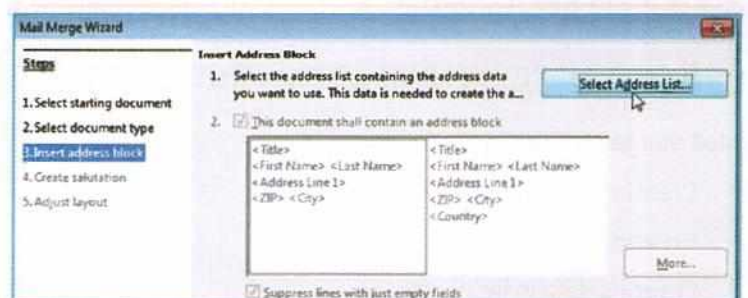


Fig. 9.4: Selecting Address List Button

- Now, click on the **Create** button to create a new address list.
- The **New Address List** dialog box appears.

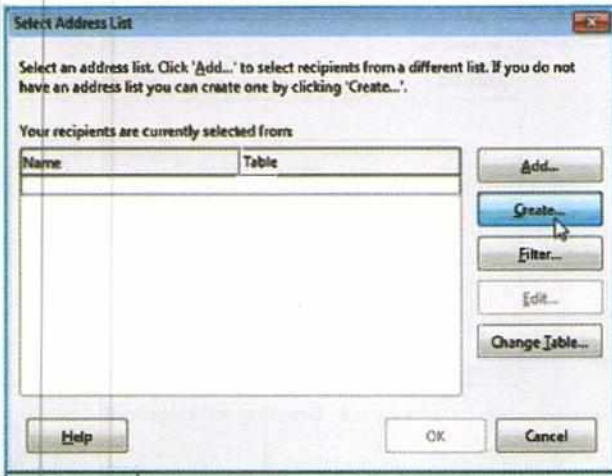


Fig. 9.5: Select Address List Dialog Box

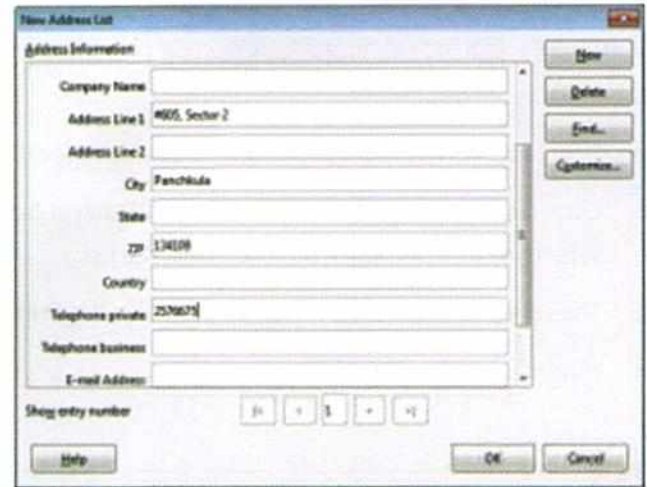


Fig. 9.6: New Address List Dialog Box

- Click on the **Customize** tab to add or remove fields.
- Now, enter the data in the respective fields, and click on the **New** button.

Tip

- Clicking on the **Add** tab opens the **Open** dialog box to insert an already existing address list.
- Pressing the **Tab** key you can move between fields, while typing the information.

- Enter records of your friends and relatives. Click on **OK**.
- You will get the **Save** dialog box. Specify a name in the **Name** box and click on the **Save** button.
- The **Select Address List** dialog box will appear.
- The dialog box displays the address file added by you. Select it and click **OK**. Now, click on the **Next** button.

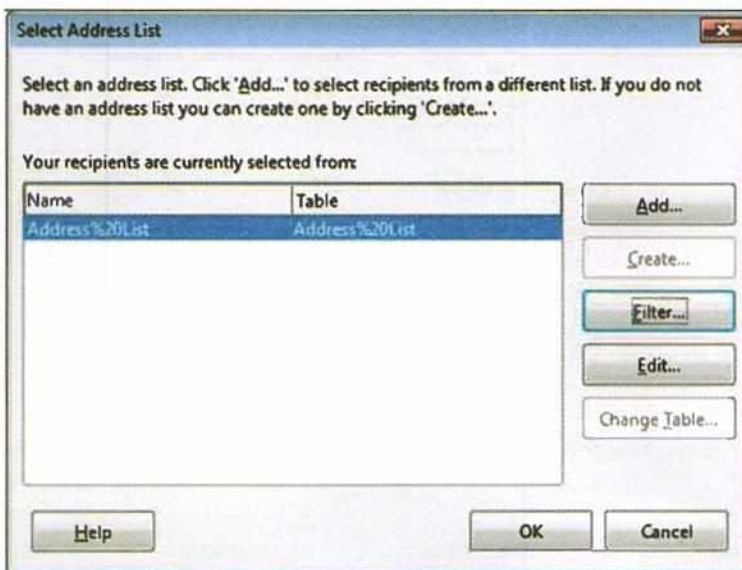


Fig. 9.7: Added Address File

Let's Know More

Field is a column in a data source that contains one type of information. For example, Name, Address, City, etc.



STEP 4: CREATE A SALUTATION

In this step, specify the properties for the salutation to be added in the mail merge document.

- ✦ Deselect the **Insert personalized salutation** checkbox.
- ✦ Click on the drop-down arrow of the **General Salutation** and select any one of them from the displayed list.
- ✦ The selected salutation will be displayed in the **Preview** pane.
- ✦ Now, click on the **Next** button.

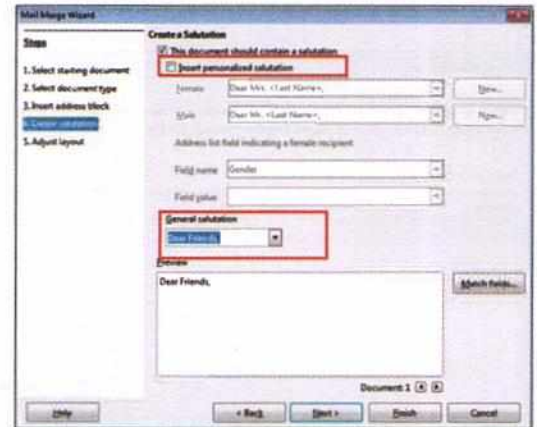


Fig. 9.8: Creating a Salutation

Tip If you want to create your own layout of Address, then you have to deselect the second checkbox under the **Insert address block** section in **Step 3**. Then, click on the **Next** button.

In **Step 4**, select the **Insert personalized salutation** checkbox. Under this section, you can specify different salutations based on the gender of the recipient. Here, you will find various fields as described below:

- ✦ **Female:** It lets you define the personalized greeting for a female recipient. Click on the **New** tab. The **Custom Salutation (Female Recipients)** dialog box opens. Define the salutation. For example, Text (Hello/Hi/Dear) First Name, Last Name, Address, City, State, Telephone Number etc. Click **OK**.

Similarly, you can define the personalized greeting for a male in the **Male** text box.

- ✦ **Field name:** Select the field name 'Gender'.
- ✦ **Field value:** Type the field value 'Female'.
- ✦ While doing these steps, do not add any salutation in the **General Salutation** text box.
- ✦ **Preview:** The selected salutation will be displayed in the **Preview** pane.

STEP 5: ADJUST LAYOUT OF ADDRESS BLOCK AND SALUTATION

In this step, you can specify the position of the address blocks and salutations on the documents.

In the **Address block position** section:

- ✦ Select the **Align to text body** checkbox. The address block will be left aligned.

In the **Salutation position** section:

- ✦ Press either **Up** or **Down** button as per your requirement.

Using the **Zoom** spin box, you can increase or decrease the view of page preview.

- ✦ Now, click on the **Finish** button.

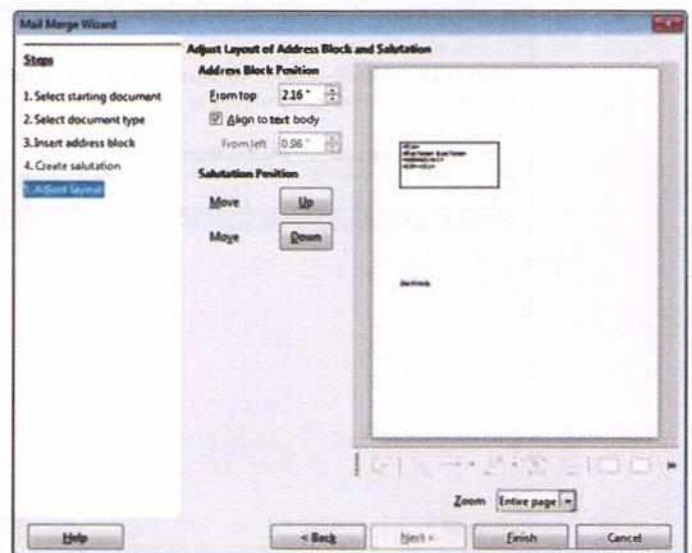



Fig. 9.9: Adjusting Layout



STEP 6: PREVIEW AND EDIT THE DOCUMENT

Once you have finished with the Mail Merge Wizard, the Mail Merge toolbar appears. Using the Mail Merge toolbar, do the following:

- ✦ To preview the document of a particular recipient, enter the record number of a recipient in **Current Mail Merge Entry** box.
- ✦ If you want to exclude the current recipient from this mail merge, select the **Exclude recipient** Exclude recipient checkbox.
- ✦ Click on the **Edit Individual Documents**  button, and edit the document individually if required. Once you are done with the editing, save the letters.

SAVING AND PRINTING THE MERGED LETTERS

You can save, print, or mail the merged document. You should always save the main document itself so that it can be used for another mail merge. To save and print merged documents, follow these steps:

- ✦ Click on the **Save Merged Document**  button on the **Mail Merge** toolbar.
- ✦ The **Save merged document** dialog box appears. Select the required option.
- ✦ Click on the **Save Documents** button.
- ✦ After saving the document, click on the **Print Merged Documents**  button.
- ✦ The **Print merged document** dialog box appears.
- ✦ Select printer name in **Printer** box.
- ✦ Select the Print all documents option if you want to take printouts of all the merged letters, or select a range of documents in **From** box.
- ✦ Click on **Print Documents** button.

Recap



- ✦ A table is an organized arrangement of text in the form of rows and columns.
- ✦ After entering data in a table, you can make changes in the data as needed.
- ✦ Splitting a table means dividing a table into two tables.
- ✦ Merging two tables provides a way to consolidate two tables into one table.
- ✦ A printed output of a document or an image is called a hard copy.
- ✦ To print a single copy of the current document, click on the Print button present on the Standard toolbar.
- ✦ Mail Merge primarily enables automating the process of sending bulk mail to customers, subscribers or general individuals.
- ✦ Data source consists of mailing list. For example, name, address, city, PIN, telephone number, etc.
- ✦ Main document is the document that contains the text that you wish to send to all the recipients.
- ✦ Merged field is a data item that instructs LibreOffice Writer where to insert the data source (names, addresses) in the main document.
- ✦ To perform mail merge, a word document is required. Either you can create a new document or use an existing one.
- ✦ You should always save the main document itself so that it can be used for another mail merge.



ASSESSMENT TIME

Answer the Following Questions:

1. What is Mail Merge?
2. List any two benefits of Mail Merge.
3. Distinguish between main document and data source.
4. Which menu do you select to execute the Mail Merge option?
5. How will you create a Recipient list for the main document?



ACTIVITY ZONE

For Better Concept Clarity

1. Your school is organising an Inter-School Computer Quiz. You are a member of the School Quiz Club. Hence, your teacher has asked you to create an invitation letter to seek participation of various schools in the contest. Use the Mail Merge wizard to create letter and merged with the recipient list.
2. Prepare a list (Data Source) of your friends. Using Mail Merge feature, create an invitation letter and invite them on your Brother's marriage.



BRAIN DEVELOPER

SECTION 1: OBJECTIVE TYPE QUESTIONS - (SOLVED)

A. Multiple Choice Questions:

1. Which of the following toolbars has the 'Table' command?
 - a. Standard Toolbar
 - b. Formatting Toolbar
 - c. Drawing Toolbar
 - c. None of these
2. Which shortcut key is used to insert table?
 - a. Alt+F12
 - b. Ctrl+F12
 - c. Shift+F12
 - d. Shift+Ctrl+F12
3. This key is used to move to the next adjoining cell in a table.
 - a. Tab key
 - b. Right Arrow key
 - c. Shift + Tab
 - d. Both a and b
4. On which button do you click to insert a new row below the selected row in a table?
 - a. Rows Below
 - b. Rows Above
 - c. Rows Previous
 - d. Rows Next
5. Which of the following is a correct way to split a table?
 - a. Table>Split Table
 - b. Table> Split
 - c. Split>Table
 - d. None of these

6. A printed output of a document or an image is called:
 - a. Soft copy
 - b. Hard copy
 - c. Both a and b
 - d. None of these
7. It is a keyboard shortcut to take printouts of a document in LibreOffice Writer.
 - a. Ctrl+A
 - b. Ctrl+P
 - c. Shift +P
 - d. None of these
8. Which keyboard shortcut is used to view the print preview of a document?
 - a. Ctrl+Shift+O
 - b. Ctrl+Shift+P
 - c. Ctrl+Shift+V
 - d. Ctrl+Shift+M
9. It lets you select the number of copies and the pages you want to print.
 - a. Save As dialog box
 - b. Paragraph dialog box
 - c. Print dialog box
 - d. None of these
10. Mail merge allows sending same letter or mail to recipients at same time.
 - a. Two
 - b. Three
 - c. Multiple
 - d. None of these
11. consists of mailing list.
 - a. Main document
 - b. Data Source
 - c. Fields
 - d. All of these
12. It is the document that contains the text that you wish to send to all the recipients.
 - a. Main document
 - b. Data Source
 - c. Fields
 - d. None of these
13. This command is used to start the Mail Merge Wizard.
 - a. Mail Merge>Tools
 - b. Tools>Mail Merge Wizard
 - c. Tool>Mail Merge
 - d. None of these
14. It instructs LibreOffice Writer where to insert the data source (names, addresses) in the main document.
 - a. Merged field
 - b. Merged cell
 - c. Merged document
 - d. None of these
15. Which of the following can be done using the Mail Merge toolbar?
 - a. Preview document
 - b. Edit document individually
 - c. Print merged document
 - d. All of these

B. State True or False:

1. A table is an organised arrangement of text in the form of rows and columns.
2. You cannot insert a table in a Writer document.
3. The Tab key moves the cursor to the previous cell in a table.
4. Tables can be split in horizontal manner only.
5. You can change the default print settings in LibreOffice Writer.
6. You cannot edit a document in the Print preview mode.
7. You cannot take prints in reverse order, i.e., print from the last page to first page.
8. Data source contains the text you wish to send to all the recipients.
9. Field is a column in a data source that contains one type of information.
10. Merge field is the feature that is used to combine a recipient list with a main document.

ANSWERS

A. Multiple Choice Questions

- 1.(a) 2.(b) 3.(d) 4.(a) 5.(a) 6.(b) 7.(b) 8.(a) 9.(c) 10.(c) 11.(b) 12.(a) 13.(b) 14.(a)
 15.(d)

B. State True or False

- 1.(T) 2.(F) 3.(F) 4.(T) 5.(T) 6.(T) 7.(F) 8.(F) 9.(T) 10.(T)

SECTION 2: THEORY QUESTIONS - (SOLVED)

1. Define the term table. Explain the use of a table in a document.

Ans: A table is an organised arrangement of text in the form of rows and columns. Table is a useful way to organise and present large amount of information. For example:

- + Technical, Financial, or Statistical reports
- + Product catalogues showing descriptions, prices, characteristics, and photographs of products
- + Bills or Invoices
- + Lists of names with addresses, age, professions, and other information.

Tables can often be used as an alternative to spreadsheets to organise data. A well-designed table conveys information in a more meaningful way rather than the text written in the form of paragraph.

2. How can you create a table in LibreOffice Writer?

Ans: To create a table in LibreOffice Writer, follow these steps:

- + Click on the **Table** option on the Standard toolbar and select the required number of rows and columns. Or
- + Click on the **Table** menu and click on the **Insert Table** option. The **Insert Table** dialog box appears. Specify number of rows and columns and click on **OK**.

3. How do you insert a row in a table?

Ans: Click anywhere in the row and then click on **Table>Insert**. Select **Rows Above** or **Rows Below** command as per your requirement.

4. How do you split a table in LibreOffice Writer?

Ans: To split a table, place the cursor inside a cell and click on **Table> Split Table**. The **Split Table** dialog box appears. Select the required option and click on **OK**.

5. How can you print a document?

Ans: To print a document in Writer, click on the **File>Print** or press **Ctrl + P**.

6. What is the use of Print Preview?

Ans: The **Print Preview** feature helps us to preview the overall formatting of our document.

7. What is Mail Merge?

Ans: The **Mail Merge** feature is used to combine a data source with the main document.

8. Write any three benefits of Mail Merge.

Ans: The following are some benefits of Mail Merge:

- + It is used to produce mass mail.
- + We can easily make changes in letters.
- + It is much easier to proof one letter than thousands of letters.

SECTION 3: APPLICATION BASED QUESTIONS - (SOLVED)

1. Sharmishtha is preparing a list of clothes which have to be bought for Durga Puja for her entire family. She has a rough list with data, help her organize the rough information below in tabular form.

Father – 2 shirts, 2 trousers

Mother – 3 Sarees

Sharmishtha – 2 Jeans, 3 tops

Ans: Click the **Table** icon on the Standard toolbar. A grid of rows and columns will visible. Drag the mouse over the grid to select 3 columns and 6 rows and fill the following information:

Family Member	Items	Quantity
Father	Shirts	2
Father	Trousers	2
Mother	Sarees	3
<u>Sharmishtha</u>	Jeans	2
<u>Sharmishtha</u>	Tops	3

2. Soniya wants to preview a 5-page document and view each page by zooming them to 150%. Also, she wants to take the printout of the odd numbered pages i.e., 1, 3, 5.

Ans: The following are the steps to preview and print a document:

- + Click on the **Toggle Print Preview** button on the **Standard** toolbar.
- + Enter **150%** in **Preview Zoom** box available on the **Print Preview** toolbar.
- + Click on the **File>Print**.
- + The Print dialog box appears. Enter page numbers **1, 3, 5** in **Pages** box.
- + Click on **OK**.

SECTION 4: APPLICATION BASED QUESTIONS - (UNSOLVED)

1. Swati has a puppy named Ricky. Since she keeps on forgetting its daily diet, so she wants to prepare a weekly diet calendar for Ricky. She does not know how to organise it. Suggest a feature of LibreOffice Writer using which she can design the calendar.
2. Raghav has designed a table of chemical formulae of various substances. He wants to add some more chemical formulae in the same table. Suggest how he could modify the table.
3. Radhika has purchased a brand new luxury car. She wants to celebrate her happiness with her friends and relatives. She wants to extend a personal invitation to each one of them without typing their names and addresses time and again. Which method could she use do this?
4. Suchitra is an office assistant and handles all the correspondence work of the company. In the current month her company has made five new clients. Where will she add the contact details of these new clients while using the mail merge feature?

SECTION 5: SHORT ANSWER TYPE QUESTIONS - (UNSOLVED)

1. What is table?
2. How do you merge tables?
3. What is data source?
4. How do you open the Print dialog box?
5. What is mail merge?

SECTION 6: LONG ANSWER TYPE QUESTIONS - (UNSOLVED)

1. Discuss any one method to create a table in LibreOffice Writer. Prepare your report card of class IX in table format.
2. Explain the method of adding rows and columns in an existing table as described:
 - a. A row above the second row
 - b. A column to the left of the first column
3. How can you copy a table in LibreOffice Writer?
4. How do you create a new recipient list?
5. Explain the general options of the Print dialog box available in LibreOffice Writer.



ACTIVITY ZONE

For Better Concept Clarity

Create a table which contains the following fields. Enter the records of any five of your friends and save the table.

a. Name b. Gender c. Date of Birth d. Postal Address e. E-mail Address

- ✦ Create a table of 5 x 5.
- ✦ Enter the records of your five friends.
- ✦ Add the title at the top: Friends Database. Use the font styles to beautify the title.
- ✦ Insert two columns after the column Date of Birth in the table and add the fields — Age and Hobbies, respectively.
- ✦ Insert three rows before last row.
- ✦ Split the table from 4th row.
- ✦ Save the table.

GROUP DISCUSSION



Divide the class into four groups and allocate different topics to each group from the following options:

- ✦ Uses of tables in Writer document
- ✦ Use of Print preview
- ✦ Benefits of Mail Merge



Creating a Spreadsheet

INTRODUCTION TO SPREADSHEET

The term "spreadsheet" is used widely in accounting and business today. Earlier, the accounting records were maintained manually on oversized sheets of papers called ledgers. These ledgers were used to record and calculate the monetary transactions of a company. The transaction data used to be arranged in the form of a table with rows and columns. Later on, the need arose to maintain a large number of records, which was difficult to fit onto a page. This led to the concept of spreading the data across pages and thus, the concept of a spreadsheet came into being.

Calc is the spreadsheet component of LibreOffice. It is one of the most professional and advanced spreadsheet software and is used by a large number of people across the world. It allows you to store, organise, calculate, and manipulate the available data in a tabular format, consisting of rows and columns. It provides inbuilt features and data analysis tools that make it easier to work with a large amount of data. It has an additional feature of representing data in a chart form that helps us to analyse data quickly. You can enter data (usually numerical) in a spreadsheet and then manipulate this data to produce certain results.

IMPORTANT FEATURES OF SPREADSHEETS

Some important features of LibreOffice Calc are listed below:

- ✦ **Functions and Formulas:** Functions are the built-in formulas which are used for making calculations such as calculating percentage, interest, average, etc., in Calc. Formulas are mainly used for performing simple and complex calculations.
- ✦ **Formatting Features:** These features are used for improving the appearance of data.
- ✦ **Auto-calculation:** The data is automatically recalculated in the whole worksheet, if any change is made in a single cell.
- ✦ **Auto Fill:** Entering data in series using the automatic filling option.
- ✦ **Charts:** Data can be viewed in a graphical form such as charts. This helps the users to understand, analyse, and compare data in an effective manner.
- ✦ **Sorting:** Data can be arranged (sorted) either in an ascending or descending order.
- ✦ **Imports and Exports:** Import and export of spreadsheets in multiple formats, including HTML, CSV, PDF, and PostScript.

SOME POPULAR SPREADSHEET SOFTWARE

- | | |
|-------------------|--------------------|
| ✦ Microsoft Excel | ✦ LibreOffice Calc |
| ✦ Gnumeric | ✦ OpenOffice Calc |
| ✦ Calligra Sheets | ✦ WikiCalc |
| ✦ Google Sheets | |

STARTING LIBREOFFICE CALC

METHOD 1

- ✦ Click on the **Start** menu.
- ✦ Type **Calc** or **LibreOffice Calc** in the Search bar.
- ✦ Press **Enter** or choose **LibreOffice Calc** option from the Program list.
- ✦ The LibreOffice Calc program opens.

METHOD 2

- ✦ Open the **LibreOffice** suite from the Start menu.
- ✦ Select **LibreOffice Calc** from the list.

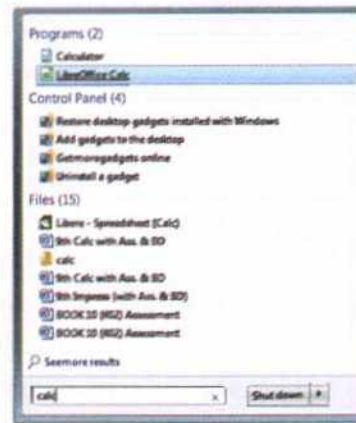


Fig. 10.1: Starting Calc through Search Bar



Fig. 10.2: Starting Calc from the Start Menu

COMPONENTS OF CALC WINDOW

The LibreOffice Calc window that appears on the screen is called **Workbook**. By default, it is assigned a temporary name **Untitled1**. Each workbook resembles a notebook and consists of several worksheets. These look like pages of a notebook.

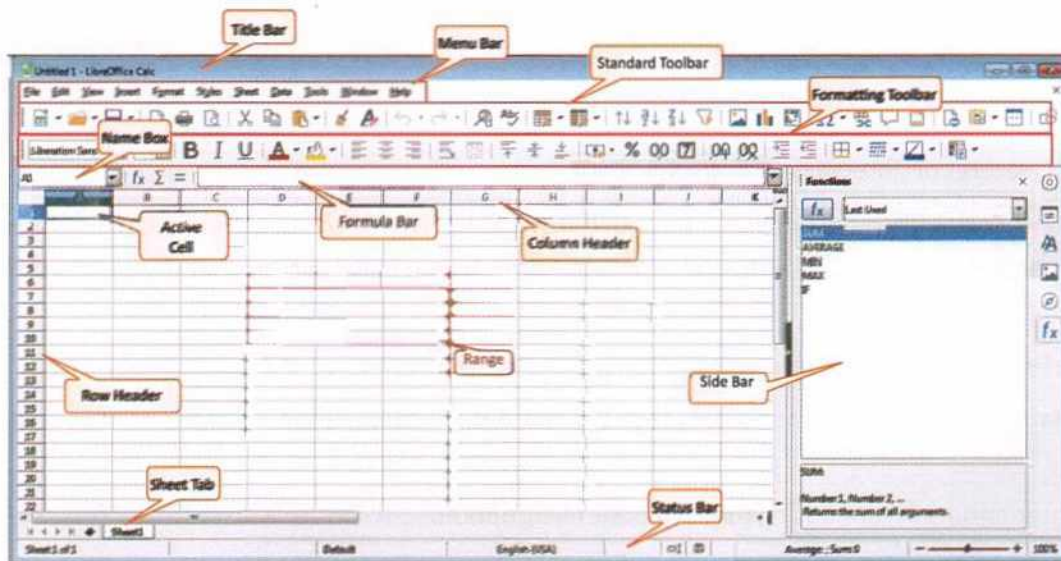


Fig. 10.3: LibreOffice Calc Window

WORKBOOK

A workbook is a collection of one or more worksheets, in a single file. Each workbook has a single theme and contains, at least, one worksheet. The workbook is designed to hold together multiple worksheets in order to organise and consolidate data efficiently.

WORKSHEET

A worksheet is composed of a very large number of cells, which are the basic storage unit for data in a file or workbook. Each sheet contains cells arranged in grid pattern using rows and columns. Rows run horizontally from left to right and columns run vertically from top to bottom. By default, a Calc workbook displays only one sheet at the bottom, with the name **Sheet1**.

In Calc, each sheet can have $2^{20}=1,048,576$ rows and a maximum of $2^{10}=1024$ columns. LibreOffice Calc can hold up to 10,000 sheets in a workbook. Columns are represented by alphabets on the top and rows by numbers on the left side of the sheet. The components of a worksheet are:

Cell: A cell is an intersection of a column and a row in a worksheet. It is rectangular in shape. Each cell is identified by its column letter and row number, which is known as Cell Address, for example, A1, G2, etc. The address of the first cell of a worksheet is A1 and last cell is AMJ1048576. There are 1,073,741,824 number of cells in a worksheet. A cell is used to store data, such as text, numbers, formulas, functions, etc. A cell can contain up to 32,767 characters.

Row: A row is the horizontal arrangement of cells in a worksheet. Rows are identified by numbers like 1, 2, 3, 4..... In Calc, the first row number of a worksheet is 1 and the last row number is 1,048,576.

Column: The vertical arrangement of cells in a worksheet is known as a column. Columns are identified by alphabets, such as A, B, C....AA, AZ, BA, BB, BC,..... In Calc, the name of the first column of a worksheet is A and that of the last column is AMJ.

Scroll bars: In Calc, there are two scroll bars — horizontal and vertical. We can use these scroll bars to navigate through the body and content of the Calc worksheets.

Active Cell: When you click on a cell on the worksheet, a thick black-coloured border appears around it, which differentiates the active cell from the other cells. Data can be entered only in the active cell. You can activate a cell by

pressing the **Tab** key, clicking on the cell or by pressing an arrow key.

Range: A range is a group of contiguous cells, which are selected or denoted collectively. It can be as small as a single cell or as big as an entire worksheet. You can specify a range by writing the starting cell address followed by the ending cell address, both separated by a colon (:). For example, a range starting from C3 and ending in J10 would be written as C3:J10.

ROW HEADER

Each row in Calc is represented by a specific number, which is present on the left hand side of a worksheet. This number is known as a Row Header. Row headers are numbered from 1 to 1048576.

COLUMN HEADER

Alphabets across the top border of a worksheet represent column headings, starting with A to AMJ. Every worksheet in Calc contains 16,384 columns.

NAME BOX

Name box is located on the left side in the Formula bar. This area displays the location of the cell pointer by displaying its address. For example, A1, B6, etc.

FUNCTION WIZARD

The Function Wizard (*fx*) opens the Function Wizard dialog box, which allows you to search through the list of available functions.

Fact File



The first electronic spreadsheet was VisiCalc, which was created by **Daniel Bricklin (R)** and **Bob Frankston (L)** in the early 1980s.

Know The Fact

Calc is the spreadsheet component of LibreOffice software. **Calc** is capable of opening and saving most spreadsheets in Microsoft Excel file format. It can also save spreadsheets as PDF files.

Let's Know More

The Navigation buttons to the left of Sheet tabs, allow you to move through the Sheets quickly.

Quick View

- + **Ctrl + F2** key combination opens the function wizard.
- + **F7** key is pressed to check the spellings in the current sheet.

Quick View

- + Press **Ctrl+→** to move to the last column of the worksheet, i.e., AMJ.
- + Press **Ctrl+↓** to move to the last row of the worksheet, i.e., 1048576.

SUM

The SUM function (Σ) calculates the sum of a range of numeric values and shows the result in the selected cell.

FUNCTION

Clicking on the Function icon inserts an equal to (=) sign in the selected cell and also in the input line, that makes it ready for a formula or function to begin.

FORMULA BAR

The Formula bar is located at the top of the sheet in the Calc workspace. It is located to the right of the Name box. This bar shows the characters and formulas that you enter in an active cell. It shows the actual content of the cell. In Calc, if a function or formula is written in a cell, the cell displays the result or value, and the formula bar displays the function or formula applied.

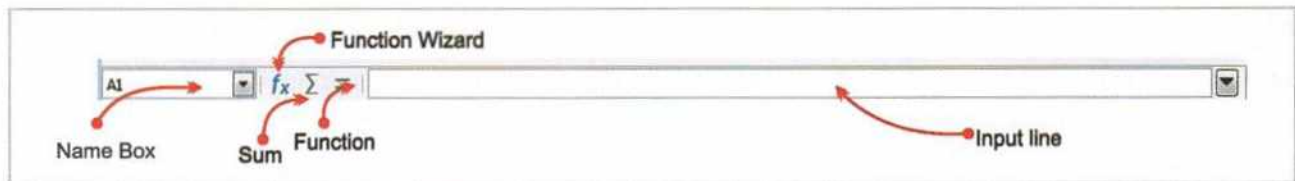


Fig. 10.4: Formula Bar

NOTE

When you enter new data into a cell, the Sum Σ and Function *fx* icons change to **Cancel** \times and **Accept** \checkmark icons.

SHEET TABS

Sheet tabs appear at the bottom left of the Calc window, just above the Status bar. Every new workbook which you open, contains only one blank sheet. You can add more worksheets in a workbook according to your need. You can also rename the sheet tabs, insert new sheets, and delete sheets as per your requirement. When you click on a particular sheet tab, that worksheet becomes active.

STATUS BAR

The Status bar is located at the bottom of the Calc window. It gives us information about the current status. It includes the count of the currently selected rows and columns, current sheet number, language of the current dictionary, average and sum of the selected numeric cells and a button to quickly save the workbook. It also displays warning messages.

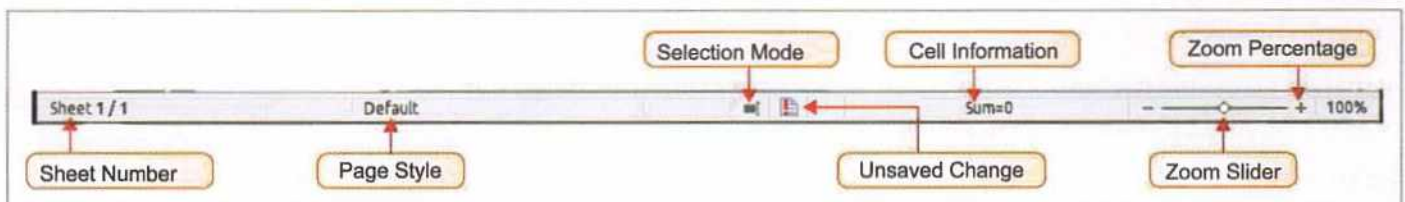


Fig. 10.5: Status Bar

SIDEBAR

The sidebar window is located on the right side of the Calc window. It contains one or more decks. A tab bar on the right side of the sidebar allows switching between different decks, such as, Sidebar Settings, Properties, Styles, Gallery, Navigator, and Functions.

TITLE BAR

It shows the name of the current workbook along with the name of the application. For example, **practice.ods - LibreOffice Calc**, where 'practice' is the name of the current workbook, '.ods' is the extension given to a Calc workbook, and 'LibreOffice Calc' is the name of the application. The title bar of an unsaved workbook shows 'Untitled1'.

MENU BAR

Menu bar is displayed under the Title bar. When you choose one of the below mentioned menus, its corresponding submenu appears with other options.

File: This menu includes options, such as Open, Save, Wizards, Export as PDF, and Digital Signatures.

Edit: This menu includes options for editing the document, such as Undo, Redo, Cut, Copy, Paste, and Find & Replace.

View: This menu has options like Toolbars, Full Screen, and Zoom. These are used for viewing the file in different ways.

Insert: This menu has options for inserting elements such as Image, Media, Chart, Object, Function, and Field into a spreadsheet.

Format: This menu has options such as Text, Cells, Rows, Columns, Align, Image, Chart and Merge Cells, for formatting the layout of a spreadsheet.

Styles: This menu includes options for managing the style of the worksheet.

Sheet: This menu contains the options to insert and delete rows, columns, cells, sheets, etc.

Tools: It contains functions, such as Spelling, Share Spreadsheet, Language, Customize, and Options.

Data: This menu has options such as Define Range, Sort, AutoFilter, and Consolidate, for manipulating data in the spreadsheet.

Window: This menu has options, such as New Window, Close Window, and a list of open windows for switching between them.

Help: This menu provides options for help on any topic while using Calc.

STANDARD TOOLBAR

The standard toolbar in Calc contains a variety of command buttons for doing things, like opening, closing, and saving a workbook; printing worksheets; cut, copy, and paste selected items; inserting charts, images, header and footer; sorting data; etc.

FORMATTING TOOLBAR

The Formatting toolbar contains a collection of commands that allows the user to access various formatting options, such as changing the font format, aligning data vertically and horizontally, applying various data formats, and cell formatting.

RANGE OF CELL

In general, a range refers to a series of values between two other values. For example, the range between 1 and 5 includes 2, 3, and 4. When referring to a spreadsheet, the range or cell range is a collection of cells within a row or column. A range can be two or more contiguous cells, which are selected or denoted collectively. You can specify a range by writing the starting cell address followed by the ending cell address, both separated by a colon (:). A range can be of three types:

COLUMN RANGE

Column range refers to the range of cells spread across a column. In this type of range, the column letter is constant whereas the row number varies. For example, a column range that included rows 1 to 5 of column B would be written as B1:B5.

ROW RANGE

Row range refers to the range of cells spread across a row. In this type of range, the row number is constant whereas the column letter varies. For example, a row range that included columns B to F of row 5 would be written as B5:F5.

ROW AND COLUMN RANGE

This type of range is in the form of a matrix referring to multiple rows and columns. For example, a range consisting of all cells of rows 3 to 10 that lie in column B to F would be written as B3:F10.



ACTIVITY ZONE

For Better Concept Clarity

1. Click on the cells B20, F9, E1, A24, G13 one after the other and observe the display of cell address on the Name box.
2. Write the cell addresses of the following:
 - a. First row and first column
 - b. First row and last column
 - c. First column and last row
3. Write the range for the following:
 - a. All cells of row 6 from column C to H.
 - b. All cells of column D from rows 3 to 15.
 - c. All cells from column F row 4 to column L row 9.

CREATING A NEW WORKBOOK

When you start Calc, you will get a blank workbook. You can also open a new workbook in one of the following ways:

- ✦ Select the **File > New > Spreadsheet** option. Or
- ✦ Click on the **New** button located on the **Standard** toolbar. Or
- ✦ Press the **Ctrl + N**.

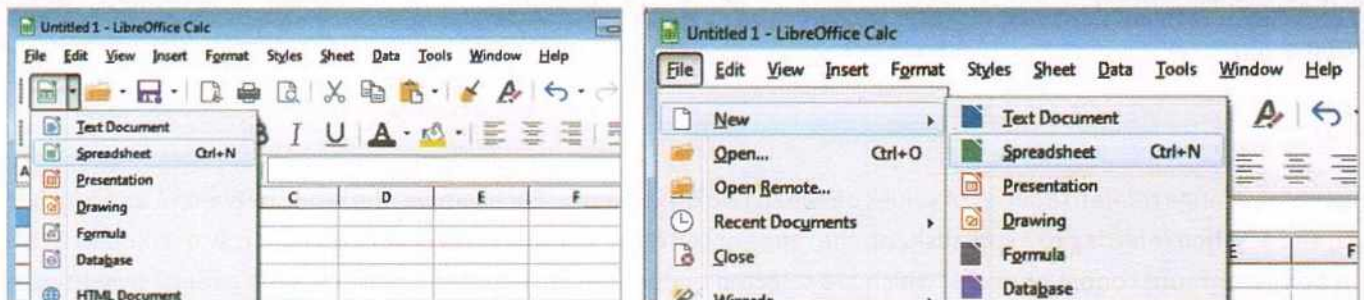


Fig. 10.6: Different Ways of Creating a New Workbook

INSERTING A WORKSHEET

To insert a new worksheet, follow any of these methods:

METHOD 1

- Click the '+' sign adjacent to the Sheet tabs.

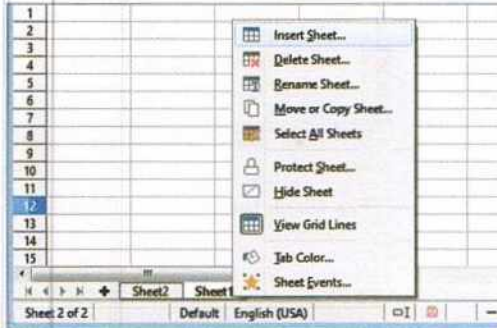


Fig. 10.8: Inserting a Worksheet

file source if the worksheets are to be inserted from another file.

- Click on **OK**.

SAVING A WORKBOOK

You can save your document in three ways:

- Click on the **File > Save**. Or
- Click on the Save button on the Standard toolbar. Or
- Press **Ctrl+S**.
- In all the above cases, you will get the **Save As** dialog box. Give a suitable file name in the **Name File name** box and click on **Save**. The file will be saved with an extension **.ods**.

RENAMING A WORKSHEET

We can rename a worksheet in order to make it more relevant for the users. Usually, we name a worksheet considering the type of data it is holding. Let us learn how to rename a worksheet.

- Right-click on the Sheet tab which you want to rename.
- Choose the **Rename Sheet** option. You will see the **Rename Sheet** dialog box.
- Assign a new name for the worksheet and click on **OK**.
- The worksheet will be renamed.

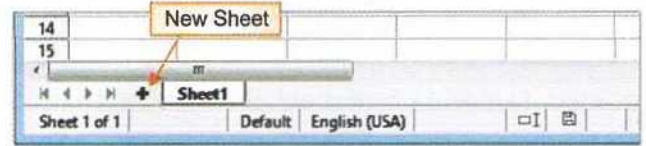


Fig. 10.7: Inserting a New Worksheet

METHOD 2

- Right-click on the empty space next to **Sheet 1** tab and select the **Insert Sheet** option. The **Insert Sheet** dialog box appears.
- Select the desired **Position** of this worksheet.
- In the **Sheet** section, specify the number of sheets to be inserted, name of the sheet (if single sheet is to be inserted), and also the location of the



Fig. 10.9: Insert Sheet Dialog Box

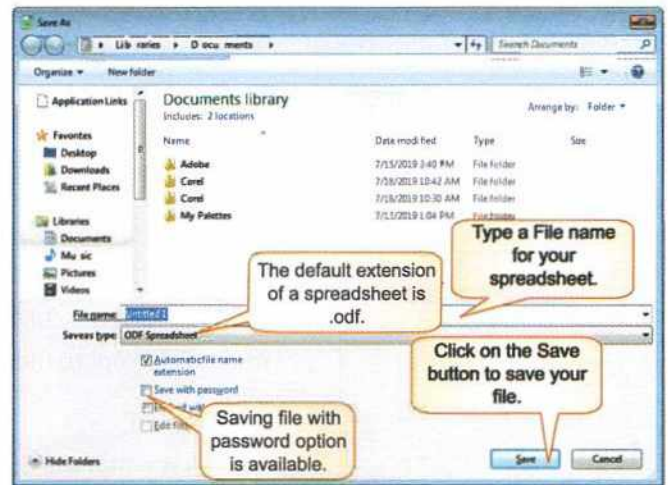


Fig. 10.10: Save As Dialog Box

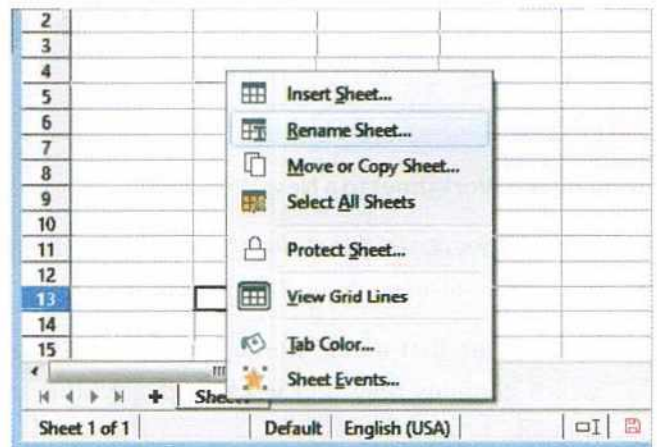


Fig. 10.11: Renaming a Worksheet

DELETING A WORKSHEET

At any point of time, you can delete the unwanted worksheet(s) from the workbook. If the workbook contains only a single worksheet, then it cannot be deleted. To delete a worksheet, the workbook must contain more than one sheet. To delete a worksheet, follow the given steps:

- Right-click on the desired worksheet and choose the **Delete Sheet** option.

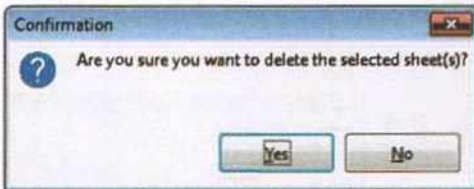


Fig. 10.13: Delete Worksheet Message Box

- You will get a dialog box asking for confirmation to delete.
- To delete the selected worksheet, click on Yes.

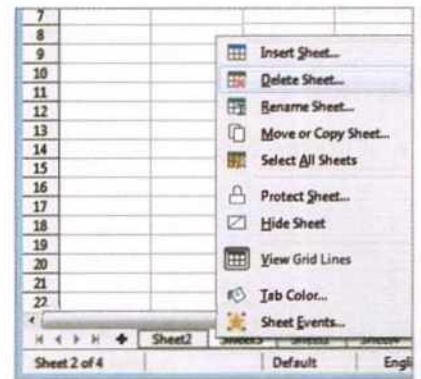


Fig. 10.12: Deleting a Worksheet

MOVING AND COPYING A WORKSHEET

We can move a worksheet either from one position to another within a workbook or from its parent workbook to another file. Right-click on the desired worksheet tab and choose the **Move or Copy Sheet** option. You will get the **Move/Copy Sheet** dialog box. From here, we can either move the worksheet at some other location within the same workbook or move it to a new workbook. Let us try both the methods.



Fig. 10.15
Move/Copy Sheet Dialog Box

METHOD 1

Moving the Worksheet within the Same Workbook

- In the **Move/Copy Sheet** dialog box, from the **Insert before** list, select the worksheet above which you want to move the current worksheet and click on **OK**. You can also opt to move this worksheet to the end of the list.
- You will see that the desired worksheet has moved to its new place.
- You can also drag the Sheet tab and drop it in its new location.

METHOD 2

Moving the Worksheet to a New Workbook

- In the **Move/Copy Sheet** dialog box, choose the **new document** option from the 'To document' drop-down list and click on **OK**.
- You will see that a new workbook has been created with the name **Untitled 2**, which contains only one worksheet, i.e., the same worksheet that has been moved.

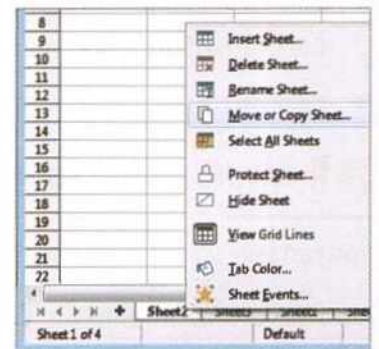


Fig. 10.14: Selecting
Move or Copy Sheet option



Fig. 10.16: Moving a Worksheet

OPENING AN EXISTING WORKBOOK

You can open an existing document in one of the following ways :

- Select **File > Open**. Or
- Click on the **Open** button present on the Standard toolbar. Or
- Press **Ctrl + O** on the keyboard.
- Using any of the three methods mentioned above, the **Open** dialog box appears. Select the file which you want to open and then click on **Open** button or press **Enter**.
- Select **File > Recent Documents**. This method works if the file was opened in the recent past.

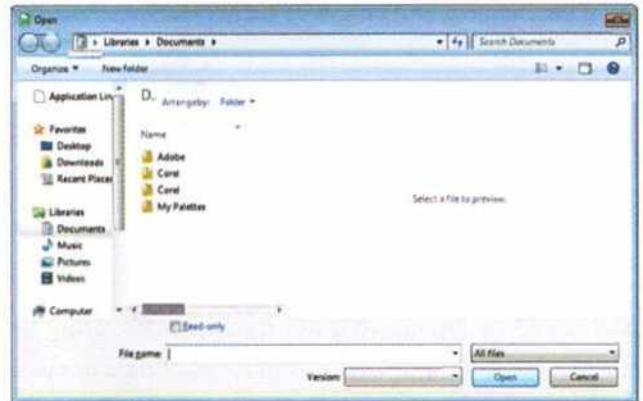



Fig. 10.17: Opening a Spreadsheet

CLOSING A WORKBOOK

A workbook can be closed by using the following two methods:

- Select the **File** menu and then click on **Close**. Or
- By clicking on the  cross button on the top right hand corner of the workbook.

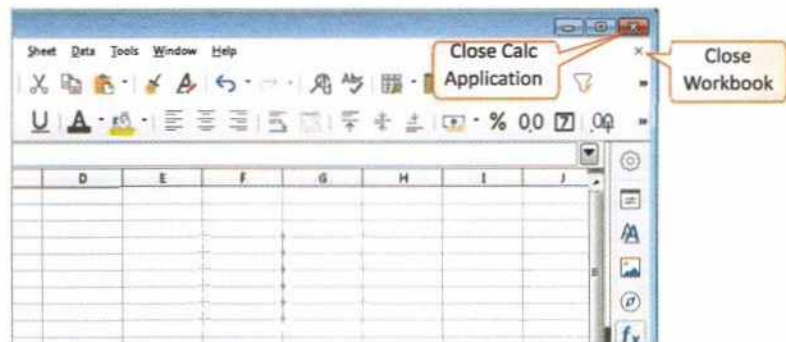


Fig. 10.18: Closing a Workbook



Answer the Following Questions:

1. What is the difference between a workbook and a worksheet?
2. How many rows, columns and cells are there in a Calc Worksheet?
3. What is a range? How will you specify a range of cells in Calc?
4. How will you insert a new worksheet between Sheet1 and Sheet2?
5. Write the steps you will follow to move a worksheet to a new workbook?



ACTIVITY ZONE

For Better Concept Clarity

Create a new workbook, insert a new worksheet in it. Now, rename the worksheet with your name. Save the workbook with a different name and delete the worksheet which was renamed.

Editing Data in a Spreadsheet

ENTERING DATA IN WORKSHEETS

Any type of data, be it numeric, alphanumeric, non-numeric or formula, can be entered in a worksheet by typing. To enter data in a cell, bring the cell pointer on the desired cell and then type the data. You can enter types of data in a worksheet.

LABEL

The text entered in a cell by using the keyboard is called a label. A label can be a combination of both numeric and non-numeric data along with spaces. For example, 98Hello42, A2Z, 14-3, are the examples of labels. By default, the labels are left-aligned in a cell and are never used for calculation purposes.

VALUE

The numeric data is called value in Calc and can contain the digits 0-9. To enter a negative number, either type a minus (-) sign in front of it or enclose it in parentheses (brackets), for example, (6789). Calc would recognise this value as -6789. Calc ignores the leading plus sign (+) and takes the number as a positive value. By default, the values are right-aligned in a cell.

ENTERING FORMULAS

A formula is a symbolic expression that can include numbers, cell addresses, arithmetic operators, and parenthesis. Formulas establish a relationship between two or more cells.

Formulas in Calc must begin with '=', symbol followed by the cell references and operators. When a formula is entered in a cell, the result of the equation is displayed on the cell whereas the formula is shown in the Formula bar.

ENTERING NUMBERS AS TEXT

If a number is entered in the format **01481**, Calc will drop the leading 0. To preserve the leading zero, in case of telephone area codes, roll nos., etc., type an **apostrophe** before the number, **'01481**.

The data is now treated as text and displayed in the same form as it has been entered.

ENTERING DATE/TIME

Select the cell and type the date or time. You can separate the date elements with a **slash (/)** or a **hyphen (-)** or use text such as **12 Apr 16**. Calc recognises a variety of date formats. You can separate time elements with colons, such as **12:23:51**.

Let's Know More



In LibreOffice Calc you can save a document as Excel file with .xls or .xlsx extension.

Quick View



To increase or decrease the height or width of a cell, press one of the four arrow keys along with **Alt Key**.

Let's Know More



There are four types of operators in Calc:
Arithmetical,
Comparative, Text, and
Reference.

Let's Know More



If you begin a formula with '+' or '-' sign, Calc automatically adds the '=' sign before it.

Know The Fact



Click on **Insert > Special Character** to insert a special character in the cell.

DATA VALIDATION

Calc provides various ways of applying data validation in worksheets – numeric validation, range validation, etc. When a worksheet is used to receive input data from users, data validation can be used to restrict user from invalid data input. To apply data validation on your worksheet cells, follow the below mentioned steps:

- ✦ Select the cells on which data validation is to be applied.
- ✦ Choose **Data > Validity**.
- ✦ The **Validity** dialog box opens.
- ✦ In the **Criteria** tab, click the **Allow** drop-down list and choose the type of data you want to allow in the selected cells.
- ✦ Choose the **Data** and **Value** criteria accordingly.
- ✦ In the **Input Help** tab, a help message can be entered that will be displayed while entering data in the cells.
- ✦ In the **Error Alert** tab, an **Error message** along with an **Action** can be entered that will take place if an invalid entry is made in the cells.



Example

The below figure shows the various tabs of Validity dialog box, where data validation is applied on Student's Marks which should be a whole number between 1 to 100.

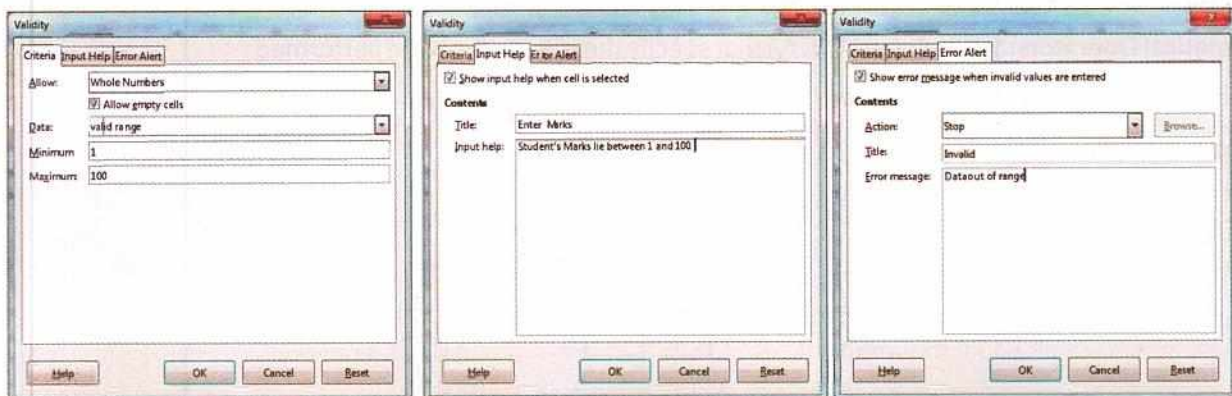


Fig. 11.1: Data Validation



ACTIVITY ZONE

For Better Concept Clarity

In a worksheet, write the addresses of your friends, stating their First Name, Last Name, and complete Postal Address.

	A	B	C	D	E	F	G	H
1	Title	F_Name	Last_Name	Address	City	State		
2	Mr.	Astik	Sahani	#414, 32-A	Chandigarh	Chandigarh		
3	Ms.	Sanya	Mohan	#44, 12-A	Chandigarh	Chandigarh		
4	Ms.	Reena	Mahajan	#45, 25-A	Panchkula	Haryana		
5	Mr.	Sarthak	Taluja	#48, 35-A	Mohali	Punjab		
6	Mr.	Bharat	Bhushan	#258, 22-A	Derabassi	Punjab		
7								

- ✦ Save the file with the name, Address.ods.
- ✦ In column G, write the Roll Numbers of these friends of yours.
- ✦ All Roll Numbers must start with the digit '0' (zero). Type apostrophe (') before the numbers so that Calc should not drop the leading zero in Roll Numbers.
- ✦ Move this worksheet to a new file and observe the location of this worksheet in the new file.
- ✦ Save the worksheet after making modifications in it.

WORKING WITH FORMULAS AND FUNCTIONS

Calc has a powerful feature to perform calculations on the data. We can perform addition, subtraction, multiplication and division of numbers either using formulas or using functions.

WORKING WITH FORMULAS

Formulas are used to perform calculations involving addition, subtraction, division, and multiplication. It establishes a relationship between two or more cells. A formula is an expression that can include cell addresses, numbers, arithmetic operators, and parenthesis. We can perform simple as well as complex calculations using formulas.

Formula, must begin with an equal to (=) symbol followed by cell references and mathematical operators. It may contain a few or all the mentioned elements.

References: A cell or range of cells that you want to use in your calculation

Mathematical Operators: Symbols (+, -, *, /, ^,) that specify the calculation to be performed

Constants: Numbers or text values that do not change

Functions: Predefined formulas in Calc

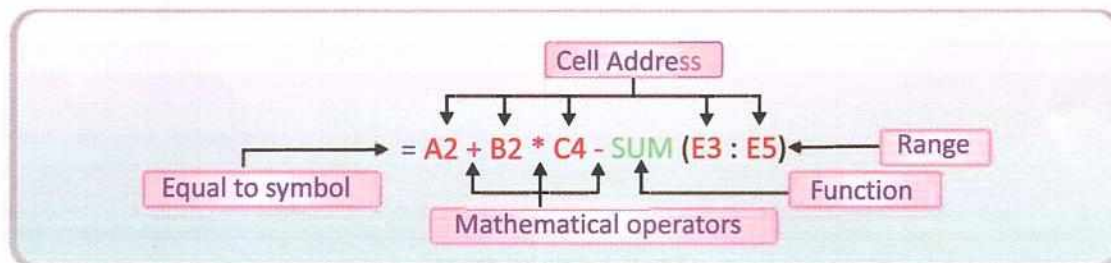


Fig. 11.2: ELEMENTS OF FORMULAS IN CALC

Using Mathematical Operators: Spreadsheet software uses standard mathematical operators to calculate addition, subtraction, multiplication, division, and exponentiation. Any number of mathematical operators can be used in a formula, but they are evaluated according to their precedence. The following tables show the arithmetic operators and their precedence while using in a formula:

Purpose	Mathematical Operator
Addition	+
Subtraction	-
Multiplication	*
Division	/
Exponentiation (Power)	^

Precedence	Operator
First	()
Second	^
Third	/ *
Fourth	+ -

Fig. 11.3: Operators and their Precedence

For example: The formula $= (4+8*2)^2$ will show the result 400.

Using a Basic Formula: A basic formula involves only one operator in a formula. Enter data as shown in Figure. Let us calculate the sum of the numbers entered in the cells B4, B5, ... B9 and display the result in B11. Follow these steps:

- ✦ Click on the cell B11 where you want to display the total, and type equal to (=) sign.
- ✦ Click on the cell B4. The address will appear in cell B11. Type plus (+) sign after that.
- ✦ Further, repeat the steps till B9 or type: **=B4+B5+B6+B7+B8+B9** in cell B11.
- ✦ Press the **Enter** key.
- ✦ The total of all the values from B4 to B9 will be displayed in cell B11.

	A	B	C	D	E
1		Incentive Percentage			
2		Charity Amount			
3	Month	Sales	Expenses	Incentive Amount	Actual Expenses
4	January	1000			
5	February	2000			
6	March	15000			
7	April	3000			
8	May	1900			
9	June	200			
10					
11	Total	=B4+B5+B6+B7+B8+B9			
12					
13					

Fig. 11.4: Using Basic Formula

Using Compound Formula: Compound formulas are used when you need more than one operator to perform calculation. Let us calculate the Simple Interest using the formula $P \times R \times T / 100$. Enter the data as shown in Figure. Follow the given steps:

- ✦ Click on the cell B6 and type = sign.
- ✦ Click on the cell B2. The cell address B2 appears in the cell B6.
- ✦ Type * sign and click on the cell B3.
- ✦ Again type * sign in B6 and click on the cell B4. Type / sign and 100 in the cell B6. Press the **Enter** key. The cell B6 displays the calculated result of Simple Interest.
- ✦ Note that the result appears in the cell, but the actual formula appears in the Formula bar.

	A	B	C
1			
2	Principal		4500
3	Rate		5
4	Time (in year)		3
5			
6	Simple Interest	=B2*B3*B4/100	
7			

Fig. 11.5: Using Compound Formula

Using Text Formula: You cannot perform any mathematical operation on text data. However, you can add two text values together to join them. Joining two or more text values together is called **Concatenation**. You can use the ampersand symbol (&) for addition. Follow the steps to concatenate the text values:

- ✦ Enter two string type values in cell A1 and B1, say **Kips** in A1 and **India** in B1.
- ✦ Enter the formula = "Kips"&"India" in cell C1 and press **Enter** key.
- ✦ It will display KipsIndia in the cell C1.

	A	B	C
1	Kips	India	KipsIndia
2			

Fig. 11.6: Using Text Formula

NOTE

Enter the text **I, Love, Computer** in separate cells. Place the cursor on the cell where you want to display formula. Now, type the formula either in the Formula bar or cell. If you want to leave a blank space after each word, then leave a space before closing the double inverted commas.

For example: "I " & "Love " & Computer"↵

I Love Computer

Using a Range in a Formula: You can assign multiple cells to formula by creating a reference or a range. Use of a range saves a lot of time. For example, if you want to calculate the sum of columns or rows, it is always better to define a range.

- Type the data as shown. Click on the cell B11 and type the formula **=SUM (B4:B9)**.
- Press the **Enter** key. The Sum value will be displayed in the cell B11.

Similarly, calculate the sum of cells C4 to C9 in the cell C11.

	A	B	C	D	E
1		Incentive Percentage			
2		Charity Amount			
3	Month	Sales	Expenses	Incentive Amount	Actual Expenses
4	January	1000	200		
5	February	2000	100		
6	March	15000	300		
7	April	3000	250		
8	May	1900	175		
9	June	200	275		
10					
11	Total	=SUM(B4:B9)			
12					
13					

Fig. 11.7: Using a Range in Formula

Tip Range basically shortens the length of the formula. For example, if you wish to find the average of the values from B4 to B9, then instead of typing **=AVERAGE (B4,B5,B6,B7, B8,B9)**, simply use range in your formula, such as **=AVERAGE (B4:B9)**.

USING FUNCTIONS

Functions are pre-designed formulas to perform simple and complex calculations. They eliminate the chance to write wrong formulas. The functions are made up of two parts — Arguments and Structure.

ARGUMENTS

Arguments are input values to functions. These can be numbers, text, logical values (such as True or False), range of cells, constants, formulas or even other functions.

STRUCTURE

The Structure of a function defines its basic skeleton, which forms the basis of writing the general syntax of functions. The structure begins with the function name followed by a list of arguments separated by commas (semicolon in case of range of cells) within the parenthesis. A function must begin with the '=' sign.

=FUNCTION NAME (argument1, argument2, argument3)

IMPORTANT FUNCTIONS

SUM()

The **SUM** function adds all the numbers in a given range of cells. Let us learn how to use it.

- Click on the cell where you want to place the sum of values (for example, E5).
- Type '=' sign.
- Type the function name, i.e., **SUM**.
- Now, type the open parenthesis symbol '('.

	A	B	C	D	E	F
1		Students Progress Report				
2						
3	St. No.	Name	Marks		Total	Average
4			Oral (100)	Written (100)		
5	1	Kavyash	80	75	155	
6	2	Dinesh	97	88		
7	3	Rajinder	85	70		
8	4	Pradip	90	85		
9	5	Aashish	73	85		
10	6	Saurav	77	89		
11	7	Kumar	40	60		

Fig. 11.8: SUM Function

Let's Know More

Formulas in LibreOffice Calc are not case sensitive. For example, **B5** is treated same as **b5**.

Know The Fact

Calc includes over **350** functions to help you analyse data.

Let's Know More

Sum function adds all the numbers in a range of cells and returns their total as a result.

Let's Know More

Using the **SUMIF** functions, we can add the cell values specified by a given criteria.

Let's Discuss

Formulas and Functions

Know The Fact

A range spans a cell or a group of cells adjacent to each other on a spreadsheet. The range can be used in formulas.

✦ Since we want to calculate the sum of values of C5 and D5, we can write the formula in two ways:

=SUM (C5,D5) Or

=SUM (C5:D5)

✦ Type the closing parenthesis symbol ')'.
✦ Press the **Enter** key and you will see the result in the cell E5.

Let us see some more examples of the **SUM()** function.

=SUM (1, 2, 3)	Returns 6, i.e., 1+2+3
=SUM (A1 : A4)	Returns the sum of range of cells from A1 to A4, i.e., A1+A2+A3+A4
=SUM (1, 2, 3, TRUE)	Returns the result as 7. The logical value of TRUE is 1. Hence, it is manipulated as 1+2+3+1=7
=SUM (A1, B2, C3)	Returns the sum of values present in the cells A1, B2, and C3

Average() : The **AVERAGE** function returns the average (arithmetic mean) of the arguments. The arguments can be a range of cells, simply numbers or numbers alongwith cell references. In the worksheet shown in the Figure, let us calculate the average of marks obtained by **Kavyansh**.

✦ To find the average of numbers in cells C5 and D5, you can write the formula in two ways:

=AVERAGE (C5,D5) Or

=AVERAGE (C5;D5)

We can also find the **AVERAGE** of two or more ranges of cells as discussed below.

=AVERAGE(C5:D5; C6:D6)

This formula will find the average of marks obtained by **Kavyansh** and **Dinesh**. Now, bring the pointer at the bottom-right corner of the cell. You will notice the **Fill Handle** tool. Drag it down to fill the rest of the cells to implement the formula.

Let us see some more examples of the **AVERAGE()** function.

=AVERAGE (1, 2)	Returns the result as 1.5, i.e., (1+2)/2
=AVERAGE (A1:A4)	Returns the average of range of cells from A1 to A4, i.e., (A1+A2+A3+A4)/4
=AVERAGE (2, 3, TRUE)	Returns the result as 2. The logical value of TRUE is 1. Hence, it is interpreted as (2+3+1)/3 = 2
=AVERAGE (A1, B2, C3)	Returns the average of values present in the cells A1, B2, and C3.

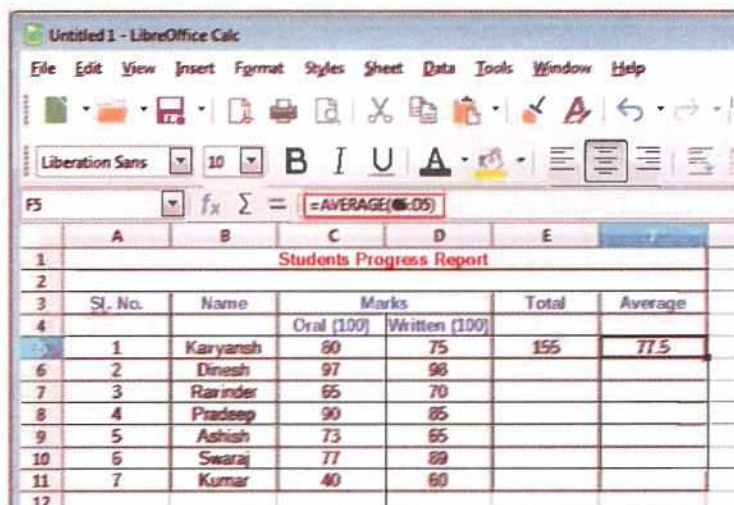


Fig. 11.9: AVERAGE Function

Count() : This function counts the number of values such as numeric entries, logical values, formulas, and date entries in a given range of cells.

Let us enter some data in a worksheet and understand the practical use of this function.

Type in different types of data values in cells A4:G4. Now, click on the cell C6 and type the formula:

=COUNT(A4:G4)

You will see the result as 4 because the **COUNT** function considered only values present in B4, C4, D4 and G4. The Count function does not count the Label entries.

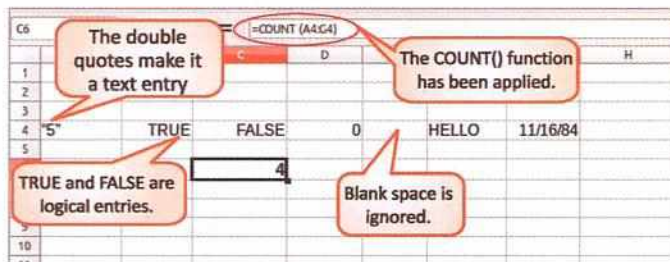


Fig. 11.10: COUNT Function

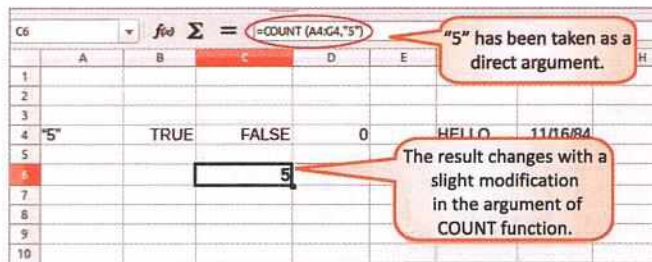


Fig. 11.11: COUNT Function with a Modification

NOTE

If a number enclosed in double inverted commas is taken as a direct argument to the COUNT function, then it will be considered as a normal numeric entry.

Max(): The MAX function returns the largest value among the set of values in a given range of cells. This function only considers **numeric entries** and **logical values** as its arguments. If there are no valid arguments within the MAX function, it returns a value 0.

Let us learn how to use it.

- ✦ Type the values as shown in the worksheet.
- ✦ Apply the **MAX** function from A1:A5 in cell A6.
- ✦ The result will be 10.

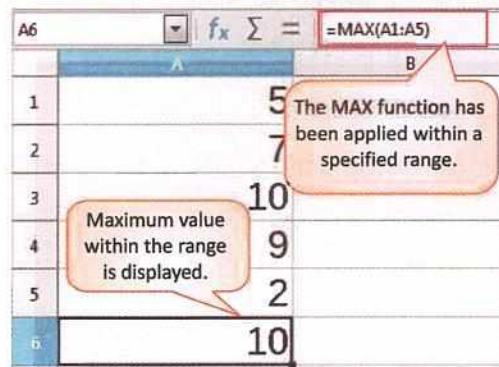


Fig. 11.12: MAX Function

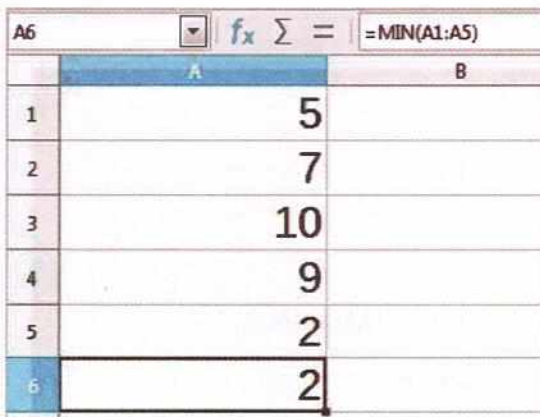


Fig. 11.13: MIN Function

Min(): The MIN function returns the smallest value among the set of values in a given range of cells. This function only considers **numeric entries** and **logical values** as its arguments. If there are no valid arguments within the MIN function, it returns a value of 0.

Let us learn how to use it.

- ✦ Type the values as shown in the worksheet.
- ✦ Apply the **MIN** function from A4: F4 in cell A6.
- ✦ The result will be 2.

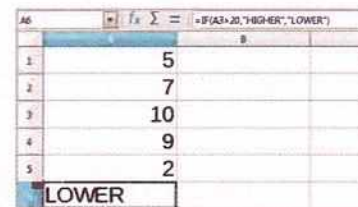


Fig. 11.14: IF Function

if(): This is a conditional function. It returns first value succeeding the condition, if the condition evaluates to **TRUE**; and second value if it evaluates to **FALSE**.

Syntax: IF(Logical_Test; Value_If_True; Value_If_False)

Logical_Test	Logical expression which returns a logical value (TRUE/FALSE)
Value_If_True	Value returned by the function if the logical test results in a TRUE value.
Value_If_False	Value returned by the function if the logical test results in a FALSE value.

Let us see some examples:

=IF(A1>100,250,200):

This means that if the value in the cell A1 is greater than 100, the function will return 250, else it will return 200.

=IF(2>20; "Good Value"):

This will return **FALSE** (by default) since the second value has not been specified and the condition results in a **FALSE** value.

=IF(1>0)

This will return **TRUE** (by default) since we have neither mentioned the true nor the false value. The condition returns a **TRUE** value, hence, the text **TRUE** will be printed.

=IF(100<200; 1/0; "Hello"):

The specified condition is true. Hence, the calculation of **1/0** will be processed. Since division by zero results in error; the result will be **#DIV/0!**

NOTE

Fill Handle is the small dot aligned at the bottom right edge of the active cell. It is used to drag and fill a range of cells with the same formula or data.

Let's Know More

MINA () and **MAXA ()** are functions which return the minimum and maximum value in a list of arguments respectively. Unlike **MIN ()** and **MAX ()** we can enter text in these functions whose value is taken as 0.

Know The Fact

The **AVERAGE()** function ignores empty cells as well as cells that contain text entries.

Quick Quiz

Which function runs a logical test on numeric values?



ACTIVITY ZONE

For Better Concept Clarity

1. Let us calculate the Total points and Grade secured by every House in various competitions:

	A	B	C	D	E	F	G	H
1	HOUSE ACTIVITY RESULT							
2	Houses	Comp. Quiz	Declamation	Recitation Contest	Rangoli	Caption Contest	Total	Grade
3	Points	100	100	100	100	100	500	
4	Vivekanand	80	90	85	72	74		
5	Shankra Charya	92	75	95	85	86		
6	Meerabai	75	85	82	85	79		
7	RaviDas	89	92	79	75	87		

- ✦ Houses getting more than or equal to 450 points, should be awarded **A** grade, while those getting less than 450 and greater than equal to 350 should be awarded **B+** grade. The houses getting points between 300 and 350 should get **C** grade and less than this should get **D** grade.
- ✦ Display the name of the house which has obtained the maximum points overall.
- ✦ Display the name of the house which has obtained minimum points.
- ✦ Find the total points of Shankaracharya House for the activities: Comp. Quiz, Recitation Contest, and Caption Contest.
- ✦ If the number in cell D5 is greater than 90, then display "Excellent", otherwise display "Well Done".
- ✦ If the total of the range B4 to F4 is less than equal to 360, then display "Put More Efforts".
- ✦ Save the Worksheet.

2. Let us calculate the HRA, Gross Salary, ESI and Net Salary of employees by using the formulas which you have learnt till now .

- ✦ Create a table as shown here.
- ✦ Calculate the **HRA** of every employee by using the formula **=Basic Salary*10/100**. To do this, click on the cell C2 and calculate the **HRA** by applying the formula **=B2*10/100** and press the **Enter** key.
- ✦ Similarly, calculate the **HRA** of every employee by copying the same formula in rest of the cells. Use Fill Handle to copy the formula to a series of cells.
- ✦ Apply the formula **=B2+C2** (Basic Salary + HRA) in the cell D2 and calculate the **Gross Salary of Ashish**.
- ✦ Similarly, calculate the **Gross Salary** of each one by dragging the Fill Handle.
- ✦ Click on the cell E2 and apply the formula **=B2*2/100** to find out the **ESI**. Apply the same formula to calculate the **ESI** of every employee by copying it in rest of the cells.
- ✦ Now, click on the cell F2 to calculate the **Net Salary** by using the formula, **=D2-E2** (i.e., Gross Salary – ESI).
- ✦ Similarly, apply the formula to calculate **Net Salary** of the rest of the employees.
- ✦ Save the worksheet.

	A	B	C	D	E	F	G
1	Name	Basic Salary	HRA	Gross Salary	ESI	Net Salary	
2	Ashish	5000	500	5500	100	5400	
3	Swaraj	6000	600	6600	120	6480	
4	Dinesh	4500	450	4950	90	4860	
5	Rafiq	4800	480	5280	96	5184	
6							
7							

INSERTING CELLS, COLUMNS, AND ROWS IN A WORKSHEET

At times, while entering data in a file, we may miss some data entry or record of a person. In such situations, we may have to insert a cell or some rows or columns in the worksheet. Let us learn this procedure.

INSERTING BLANK CELLS

To insert some blank cells in a worksheet, we must follow these steps:

- ✦ Select the range of cells where you want to insert the blank cells. You should select the same number of cells as you want to insert in the spreadsheet.

Follow any one methods to insert blank cell(s):

- ✦ Right-click on the range and select the **Insert** option. Or
- ✦ Click on the **Sheet** menu and select the **Insert Cells** option. Or
- ✦ Press **Ctrl ++**.

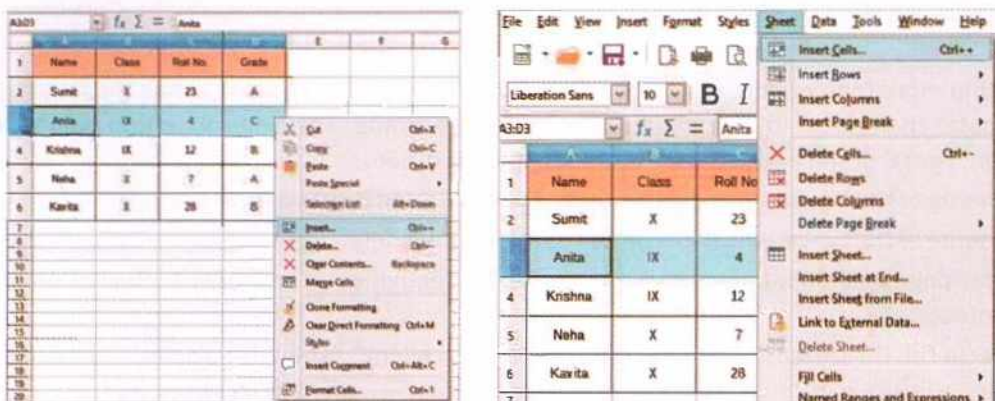


Fig. 11.15: Inserting Blank Cells

- ✦ In both the cases, you will get the **Insert Cells** dialog box. There are four different options to choose within the dialog box. Select the desired option and click on **OK**.

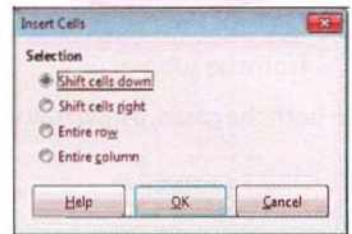


Fig. 11.16: Insert Cells Dialog Box

Let us have a glimpse of some of these mentioned options and understand the difference practically:

	Name	Class	Roll No.	Grade
1				
2	Sumit	X	23	A
3				
4	Anita	IX	4	C
5	Krishna	IX	12	B
6	Neha	X	7	A
7	Kavita	X	28	B

Fig. 11.17: Inserting a Cell

Case-1: Shift cells down

As you can see, only the selected range of cells moved down rather than the entire row.

Also, only four blank cells were inserted because we selected only four cells initially.

	Name	Class	Roll No.	Grade
1				
2	Sumit	X	23	A
3				
4	Anita	IX	4	C
5	Krishna	IX	12	B
6	Neha	X	7	A
7	Kavita	X	28	B

Fig. 11.18: Inserting a Row

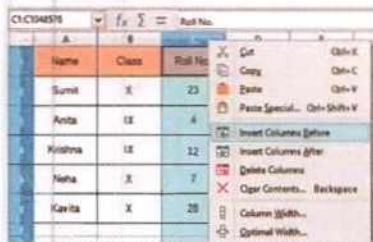


Fig. 11.19: Using Context Menu

Case-2: Entire row

In this case, the entire row shifts down. Since, the selected range contained cells from one row, a total of one new row was inserted in the worksheet.

INSERTING BLANK COLUMNS

You can insert blank column(s) between any existing columns or even before the first column. Let us learn how to do it.

	A	B	D	E
	Name	Class	Roll No.	Grade
	Sumit	X	23	A
	Anita	IX	4	C
	Krishna	IX	12	B
	Neha	X	7	A
	Kavita	X	28	B

Fig. 11.20: Inserting a Column

Method 1

- ✦ Right-click on the column header where you want to insert the new column.
- ✦ From the Context menu, select the option **Insert Columns Before**.
- ✦ A new column will be added to the left of the selected column.



Fig. 11.21: Using Sheet Menu

Method 2

- ✦ Select the column header where you want to insert the new column.
- ✦ Click on the **Sheet** menu and select the option **Insert Columns**. Then, from the submenu choose **Columns Before**.

In both the cases, a new column will be added to the left of the selected column.

INSERTING BLANK ROWS

You can insert blank row(s) between any existing rows or even above the first row. Let us learn how to do it:

Method 1

- ✦ Right-click on the row header, where you want to insert a new row.
- ✦ From the Context menu, select the **Insert Rows Above** option.
- ✦ A new row will be inserted just above the selected row.

Method 2

- ✦ Click on the row header, where you want to insert a new row.

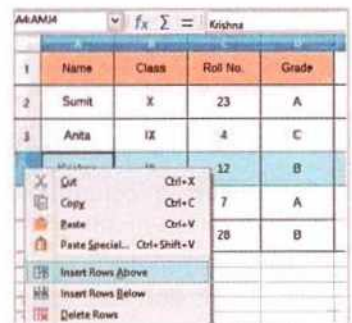


Fig. 11.22: Using Insert Rows Option

- Click on the **Sheet** menu and select the **Insert Rows** option. Then, select **Rows Above** from the submenu.

In both the cases, a new row will be inserted just above the selected row.

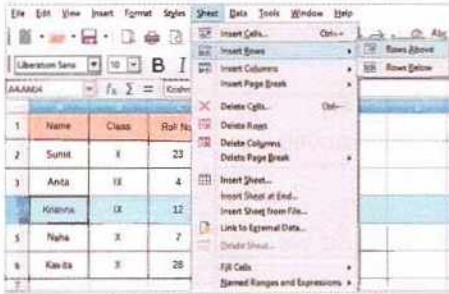


Fig. 11.23: Selecting Rows from Insert Menu

	A	B	C	D
1	Name	Class	Roll No.	Grade
2	Sumit	X	23	A
3	Anita	IX	4	C
4				
5	Krishna	IX	12	B
6	Neha	X	7	A
7	Kavita	X	26	B

Fig. 11.24: Inserting a Row

Let's Know More

You cannot define a **Name Range** which points to an actual cell reference in Calc. For example: Q1, which denotes the Qth column and 1st row, cannot be the name of a range.

ASSESSMENT TIME



Answer the Following Questions:

- What is the difference between Label and Value in calc?
- What is data validation? How to apply it on a selected column of data?
- How to insert a blank row above row 5 in a Calc spreadsheet?
- What is the purpose of If function in Calc? Explain with suitable example.
- Write a short note on Functions in Calc.



ACTIVITY ZONE

For Better Concept Clarity

Open LibreOffice Calc. Enter the given data in a worksheet.

- Save the file by specifying a file name for it.
- Insert a row after row 12 and enter the following data, "Payal", "Sales Executive", Marketing, 12000 in the newly inserted row.
- Insert a column before the "Salary" field and enter the heading - "Phone No". Enter the phone numbers of the people in the newly added column.
- Click on cell A6 and change its content to "Rohit".
- Click on cell C7 and change its content to "Production"
- Copy the contents of cell B11, and paste in cell B8 using **Ctrl+C** and **Ctrl+V** key combinations.
- Insert a column before column A. Type the heading "Sr. No".
- Type 1 and 2 in cell A1 and A2. Fill rest of the entries using the **Fill Handle**.
- Save the file using **Ctrl + S** key combination.

	A	B	C	D
1	Employees Information			
2				
3	Name	Designation	Department	Salary
4	Asna	Manager	Marketing	20000
5	Arshia	Sales Executive	Marketing	10000
6	Kiran	Store Keeper	Production	7000
7	Sonali	Worker	Marketing	5000
8	Mithu	Asst. Manager	Marketing	15000
9	Rachel	Worker	Production	5000
10	Chandan	Typist	Computer	6000
11	Jai	Comp. Operator	Computer	6000
12	Arica	Sales Executive	Marketing	11000
13	Payal	Sales Executive	Marketing	12000

Know The Fact

While using the option of **Shift Cells down**, you should be careful enough not to move any numeric entries up or down. If those numbers are a part of a formula, the final value will change, thus giving the undesirable results.



Let's Know More

You can delete multiple columns or rows at once instead of deleting them one by one.

Recap



◆ Calc is the spreadsheet component of LibreOffice. It allows you to store, organise, calculate, and manipulate the available data in a tabular format.

- ◆ The LibreOffice Calc window that appears on the screen is called Workbook.
- ◆ A cell is an intersection of a column and row in a worksheet.
- ◆ A Calc worksheet consists of 1024 (i.e. 2^{10}) columns and 1,048,576 (i.e. 2^{20}) rows.
- ◆ There are 1,073,741,824 (i.e. 2^{30}) cells in a Calc worksheet.
- ◆ The address of the first cell of a Calc worksheet is A1 and that of the last cell is AMJ1048576.
- ◆ A cell can contain up to 32767 characters.
- ◆ A Calc workbook can contain a maximum of 10,000 worksheets. By default, a new workbook contains only one worksheet.
- ◆ A range is a group of contiguous cells, which are selected or denoted collectively. To specify a range, the cell addresses of the first and last cell of the range is separated by a colon (:).
- ◆ You can insert blank row(s) between any existing rows or even above the first row.
- ◆ The Status bar is located at the bottom of the window, that gives us information about the current status.
- ◆ In Calc, a worksheet can be renamed, moved, copied, and deleted.
- ◆ The type, of data that can be entered in a Calc worksheet are numeric, alphanumeric, non-numeric, or formula.
- ◆ A formula is an expression that can include cell addresses, numbers, arithmetic operators, and parenthesis.
- ◆ The basic formulas involve one operator, whereas compound formulas involve more than one operators.
- ◆ Functions are pre-designed formulas to perform simple and complex calculations. The functions are made up of two parts — Arguments and Structure.
- ◆ Arguments are input values to the function, whereas structure defines its basic skeleton that forms the basis of writing its general syntax.
- ◆ Some important functions in Calc are, SUM, AVERAGE, COUNT, MAX, MIN, and IF.
- ◆ The text or non-numeric data entered in a cell is called a **label**.
- ◆ The numeric data is called **value** in Calc and can contain the digits 0-9.





SECTION 1: OBJECTIVE TYPE QUESTIONS-(SOLVED)

A. Multiple Choice Questions:

- Which software lets you perform calculations and manipulate the numeric data?
a. Calc b. Writer c. Impress d. Paint
- Name the element that is identified by its row number and column letter.
a. Cell b. Column c. Row d. Worksheet
- What do you call a group of contiguous cells which forms the shape of a rectangle?
a. Cell b. Spreadsheet c. Range d. Sheet Tab
- Which symbol separates the address of the starting cell address from the ending cell address in a range?
a. Semicolon b. Colon c. Full Stop d. None of these
- Which of the following component lies at the top of the document window in Calc?
a. Task Bar b. Status Bar c. Formula Bar d. Title Bar
- What is the name of the current cell which has a cell boundary around it?
a. Passive Cell b. Active Cell c. Current Cell d. New Cell
- Which is the last valid column header in Calc?
a. AMJ b. AJ c. AZ d. AJM
- What is the default name of a workbook in Calc?
a. Book1 b. Sheet1 c. Untitled1 d. All of these
- Which shortcut key combination is used to save a workbook in Calc?
a. Ctrl+X b. Ctrl+Z c. Ctrl+C d. Ctrl+S
- Which pair of brackets are used to denote a negative value in Calc?
a. Parenthesis b. Curly Brackets c. Square Brackets d. All of these
- What is the default alignment for numbers in Calc?
a. Left b. Right c. Center d. None of these
- Name the expression which includes numbers, cell addresses, operators, and parenthesis.
a. Symbol b. Equation c. Formula d. None of these
- Which symbol marks the beginning of a formula?
a. Equal (=) b. Plus (+) c. Asterik (*) d. Division (/)
- Which type of element cannot be used in a formula?
a. Reference b. Mathematical Operator c. Function d. Time
- By default, how many worksheets does a Calc workbook display?
a. 1 b. 2 c. 3 d. 4

B. State True or False:

1. If you type the apostrophe symbol before a number, Calc assumes it as a text entry.
2. The date entries in Calc are separated by the colon (:) symbol.
3. The F3 function key is used to edit the contents of the active cell.
4. The Clear All option clears all the contents from the selected range of cells.
5. The shortcut key combination to cut a specific range of cells is Ctrl+X.
6. The name given to a range of cells is added in the drop-down list of the Name Box.
7. The small black square present in the bottom right corner of the active cell is called the Cell Handle.
8. Only values can be used for calculations in formulas.
9. The number of blank cells inserted in a worksheet will be same as the number of cells selected initially.
10. A range is specified using semi-colon (;) symbol.
11. Formulas always begin with the '=' symbol followed by cell references and operators.
12. You use the Compound Formulas when you need more than one operator.
13. When a range of cells is used in a formula, all the cells that fall inside the range are included in that formula.
14. In Calc, each worksheet consists of 10,48576 rows and 16,384 columns.
15. Alphanumeric data cannot be entered in a worksheet.

C. Fill in the Blanks:

1. Each Calc file is called a because it can contain many sheets in it.
2. key combination is used to create a new workbook.
3. The cell has a dark highlighted border.
4. key combination is used to insert a new cell.
5. A is a symbolic expression that can include numbers, cell addresses, arithmetic operators, and parenthesis.
6. If you forget to put the '=' symbol before a formula, then the data is assumed to be a entry.
7. Calc will recognise the value (2305) as
8. The extension of a Calc File is
9. key combination closes the workbook window.
10. By default, values are aligned in a cell.

ANSWERS

A. Multiple Choice Questions

- | | | | | | | | | | | | | | |
|---------|--------|--------|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|
| 1. (a) | 2. (a) | 3. (c) | 4. (b) | 5. (d) | 6. (b) | 7. (a) | 8. (c) | 9. (d) | 10. (a) | 11. (b) | 12. (c) | 13. (c) | 14. (d) |
| 15. (a) | | | | | | | | | | | | | |

B. State True or False

- | | | | | | | | | | | | | | |
|---------|--------|--------|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|
| 1. (T) | 2. (F) | 3. (F) | 4. (T) | 5. (T) | 6. (T) | 7. (F) | 8. (T) | 9. (T) | 10. (F) | 11. (T) | 12. (T) | 13. (T) | 14. (F) |
| 15. (F) | | | | | | | | | | | | | |

C. Fill in the Blanks

- | | | | | | | |
|-------------|-------------|-----------|-----------|------------|----------|----------|
| 1. Workbook | 2. Ctrl+N | 3. Active | 4. Ctrl++ | 5. Formula | 6. Label | 7. -2305 |
| 8. .ods | 9. Ctrl + W | 10. Right | | | | |

SECTION 2: THEORY QUESTIONS-(SOLVED)

1. What is a spreadsheet?

Ans: A spreadsheet is like a table in which data can be spread in a tabular form consisting of rows and columns. Using spreadsheet data can be organised easily. A spreadsheet is also called a worksheet.

2. What is a cell? What does it contain?

Ans: A Cell is an intersection of a column and row in a worksheet. It is rectangular in shape. Each cell is identified by its column letter, and row number, which is known as Cell Address. A cell is used to store data, such as text, numbers, formulas, functions, etc. A cell can contain upto 32,767 characters.

3. What are Sheet tabs?

Ans: Sheet tabs appear at the bottom left of the Calc window, just above the Status bar. Every new workbook which you open, contains one blank sheet named as Sheet1. You can add more worksheets in a workbook according to your need. When you click on a particular Sheet tab, that worksheet becomes active.

4. How can you change the data in a cell using mouse in Calc?

Ans: Using the Mouse:

- + Double-click on the cell to edit it, and then move the mouse pointer up to the required place. The insertion point will blink within the cell.
- + Make the changes and press the Enter key. The changes will appear in the current cell.

5. What are the four different options present in the Insert dialog box? Explain them briefly.

Ans: The four available options in the Insert dialog box are:

- + Shift cells down : Moves the selected cell(s) down by 1 row.
- + Shift cells right : Moves the selected cell(s) towards right.
- + Entire row : Moves the complete row down by 1 row.
- + Entire column : Moves the entire column towards right.

6. Explain the term 'Formulas' in Calc.

Ans: Formulas are used to perform calculations involving addition, subtraction, division, and multiplication. A formula is an expression that can include cell addresses, numbers, arithmetic operators, and parenthesis. You can perform simple calculations as well as complex calculations using functions, like, SUM, IF, AVERAGE, COUNT, etc. Formulas must begin with '=' symbol followed by cell references and operators.

7. What is the difference between Basic Formulas and Compound Formulas?

Ans: Basic Formulas involve only one operator in a formula. For example, if you want to calculate the sum of a range of cells, you will use only the '+' operator. Compound Formulas are used when you need more than one operator. For example, while calculating the Simple Interest, you use the formula, $P \times R \times T / 100$. Since more than one operator is involved in the above formula, it is called a Compound Formula.

8. What do you understand by the terms: Row Header and Column Header?

Ans: Row Header: Each row in Calc is represented by a specific number which is present on the left hand side of a worksheet. This number is known as a Row Header. Row headers are numbered from 1 to 1,048,576.

Column Header: Alphabets across the top border of a worksheet represent column headings, starting with A to Z, AA...AZ, BA...BZ, ...XAA...AMJ. Every worksheet in Calc contains 1024 columns.

9. Explain the difference between a worksheet and a workbook with the help of an example.

Ans: A worksheet denotes a single spreadsheet page. On the other hand, a workbook is a collection of all such worksheets in a single file. For example, your textbook is like a workbook and each page acts like an individual worksheet.

10. Explain the method of entering numbers as text in Calc.

Ans: To enter number as text in Calc, type an apostrophe sign (') before the number. For example, write '2341 in a cell and press the Enter key, it will left align itself as text.

SECTION 3: APPLICATION BASED QUESTIONS-(SOLVED)

1. Shashi was assigned the task to insert a new row in the given file. Every time he tried to perform the action, only one cell was inserted rather than a whole new row. What was his mistake?

	A	B	C	D	E	F
1	Title	First Name	Last Name	Address	City	State/UT
2		Astik	Sahani	#414/32-A	Chandigarh	Chandigarh
3	Mrs.	Sanya	Mohan	#313/36-D	Chandigarh	Chandigarh
4	Mrs.	Reena	Mahajan	#975/4	Panchkula	Haryana
5	Mrs.	Sarthak	Taluja	#303/Phase-I	Mohali	Punjab
6	Mr.	Bharat	Bhushan	#865/17	Derabasi	Punjab

Ans. While attempting to add a new row, Shashi was selecting the wrong option as shown in the Insert dialog box.



The Shift cells down option will only move the selected cell down by one cell and not the entire row. To add a new record, he needs to select the Entire row option, which will move the contents of the current cell and its corresponding row down by one level. After choosing the correct option, the correct output will be:

	A	B	C	D	E	F
1	Title	First Name	Last Name	Address	City	State/UT
2						
3	Mr.	Astik	Sahani	#414/32-A	Chandigarh	Chandigarh
4	Mrs.	Sanya	Mohan	#313/36-D	Chandigarh	Chandigarh
5	Mrs.	Reena	Mahajan	#975/4	Panchkula	Haryana
6	Mrs.	Sarthak	Taluja	#303/Phase-I	Mohali	Punjab
7	Mr.	Bharat	Bhushan	#865/17	Derabasi	Punjab

2. Shagun has been asked by her teacher to find the mistakes in the following statements. Help her to identify the mistakes and correct them as well.

Ans.

Incorrect Statement	Mistakes	Corrected Statements
Formula SUM (B5:B10)		
Formula =SUM (1;2;3)		
Incorrect Statement	Mistakes	Corrected Statements
Formula SUM (B5:B10)	A formula must begin with the '=' sign	=SUM(B5:B10)
Formula =SUM (1;2;3)	The arguments must be separated by a colon (:) or comma (,)	=SUM(1:3) or =SUM(1,2,3)

SECTION 4: THEORY QUESTIONS-(UNSOLVED)

1. What are functions? Explain the different parts of a function.
2. What is the significance of COUNT() function? What type of data entries does the COUNT() function recognize?
3. Suggest the Calc functions which can be used for the following:
 - ✦ To calculate the average marks obtained by a student in SA1 assuming that his/her marks of individual subjects are given.
 - ✦ To find the highest marks of Hindi in your class, if marks of all students are given.
 - ✦ To calculate the quarterly sales of a sales executive, if the sales data of all months is given.
 - ✦ To find out the minimum quoted tender rates submitted by various companies.
4. Name three important features of a spreadsheet. Mention the names of any four spreadsheet software.
5. Define the following :
 - a. Cell
 - b. Workbook
 - c. Worksheet
6. How many rows and columns are there in a Calc worksheet? What are the cell addresses of the first and last cell of a Calc worksheet?
7. What is Formula bar? How is it different from Name box?
8. How will you move, copy, rename, and delete a worksheet?
9. What is the difference between labels and values? Explain with an example.
10. What are the four basic mathematical operations supported by Calc?
11. Explain the use of If function with the help of an example.
12. What do you understand by Range? Explain with a brief example.
13. Write the formulas to calculate Sum and Average of all the values that lie between cells C7 and F15.
14. What is concatenation? How is it used on text data? Explain with example.

SECTION 5: APPLICATION BASED QUESTIONS-(UNSOLVED)

1. An assignment was given to Sanjiv and Vibha by their teacher. They were shown the screenshot given below and were asked to answer the following questions:
 - (i) What happens when the formula $=B2+C2$ is entered in D2?
 - (ii) What happens when the formula of D2 is copied over to D6?
 - (iii) What will happens you modify the formula in the cell D6 to $=\$B6+\$C6$?
 - (iv) What happens when you copy the formula of D6 to D3?

(v) If you delete the value of C3, what will be the new value of D3?

D2		fx		
	A	B	C	D
1	Flight No.	Base Fare	Tax	Total
2	S2-112	130	2300	
3	9W-325	490	2190	
4	AI-778	395	2250	
5	IT-118	660	4000	
6	SG-894a	295	3040	

2. Mayur could not complete the assignment given by his teacher which is shown below. Help him to fill the blank cells marked with yellow colour by using the appropriate formulas.

R. No.	Name	Theory 50	Practical 50	Total 100	Percentage
1	Aaryan	48	49		
2	Manas	35	40		
3	Swati	40	42		
4	Kabeer	42	40		
5	Shradha	39	41		

3. The class teacher asked Ravi to observe the following worksheet carefully and answer the questions based on it:

	A	B	C	D	E
1					
2	Student Progress Report				
3	Sr. No.	Name	Marks		
4			Oral (100)	Written (100)	
5	1	Anju	80	70	
6	2	Manju	96	90	
7	3	Ranjana	65	77	
8	4	Kirti	87	67	
9	5	Hemant	73	65	69
10	6	Kunal	59	74	
11	7	Sparash	90	83	

- Identify the nature of formula in the cell E9.
- Copy the formula applied in cell E9 to all the cells from E5 to E11.
- Find the maximum and minimum value among the cells E5 to E11.
- Calculate the average of both Oral and Written marks.

4. Sahil has been given the hard copy of the following worksheet by his teacher.

	A	B	C	D	E	F
1	SCIENCE TEST SCORE CARD					
2	Roll No.	Name	Practical	Theory	Total Percentage	Grade
3	1	Veena	8	6		
4	2	Ashish	6	8		
5	3	Surbhi	7	9		
6	4	Harry	9	8		
7	5	Shubh	8	9		
8						
9	Max Marks		Max Practical	Max Theory	Avg. Marks Practical	Avg. Marks Theory
10	Practical	10				
11	Theory	10				
12						

His teacher has asked him to:

- (i) Calculate the total percentage of each student.
- (ii) Find the Grade of each student; The students scoring above 90% will get A+ and those getting below 90% will get B.
- (iii) Also, find the Maximum marks and calculate the Average marks of both Practical and Theory.



ACTIVITY ZONE

For Better Concept Clarity

Design the worksheet as shown and answer the following questions:

	A	B	C	D	E	F	G
1	Emp ID	Name	Salary	DA	TA	HRA	Total Salary
2	10488149	Ayush	11500				
3	10488167	Simram	9600				
4	10488151	Geetli	10700				
5	10488142	Mitali	12750				
6	10488175	Aarush	11050				

- (i) Calculate the DA of all the employees as 10% of their salary.
- (ii) Calculate the TA of all the employees as 15% of their salary.
- (iii) Calculate the HRA of all the employees as 25% of their salary.
- (iv) Calculate the Total Salary by using the formula Salary+DA+TA+HRA.
- (v) Find the maximum, minimum, and average salaries being dispensed by this company.
- (vi) The employee getting the least salary must receive Rs. 500 as bonus. Find the Total Salary of this employee.

Formatting Data in a Spreadsheet

FORMATTING A WORKSHEET

Calc provides various formatting features to beautify the data and make the worksheet presentable. Formatting helps to enhance the overall look of the workbook. First we need to select the appropriate cell or range of cells and then formatting can be applied through the following ways:

- Select the desired range and apply formatting using the tools present on the **Formatting** toolbar.
- Right-click on the selected range of cells and select the **Format Cells** option.
- Select the desired range of cells. Click on the **Format** menu and select the **Cells** option.

Let us study the different formatting effects that can be applied on a worksheet.

FORMATTING NUMBERS

Numbers in Calc can be presented in different formats. By default, numbers are expressed in **General** format, which allows us to display them with as many decimal digits as required. It is important to note that changing the format of numbers modifies its appearance only and not the actual cell value. Let us learn the process of formatting numbers using the sample worksheet shown below.

- Select the cell or range of cells to be formatted.
- Click on **Format > Cells**. The **Format Cells** dialog box appears on the screen.
- Click on the **Numbers** tab and select any data type from the **Category** list.
- Select the **Format** which is to be applied on the data.
- In the **Decimal places** option, select the number of decimal places you want to display in the data.
- Enter a suitable value in the box of **Leading zeroes** option to denote the number of leading zeroes.
- To use comma as the separator between thousand values, click on the checkbox of **Thousands separator**. This command is optional.
- Click on the **OK** button. You can now see the following change in format.

The screenshot shows a spreadsheet window titled 'Untitled 1 - LibreOffice Calc'. The spreadsheet contains a table with the following data:

Month	Sales	Expenses	Incentive Amount	Total Expenses
January	1000	200	100	150
February	2000	100	200	50
March	15000	300	1500	250
April	3000	250	300	200
May	1900	175	190	125
June	2000	275	200	225
Total	24900	1300		

Additional details from the screenshot: The 'Incentive Percentage' is 10% and the 'Charity Amount' is 50. The spreadsheet is on 'Sheet 1' and the status bar shows 'English (USA)' and '100%' zoom.

Fig. 12.1: Sample Worksheet

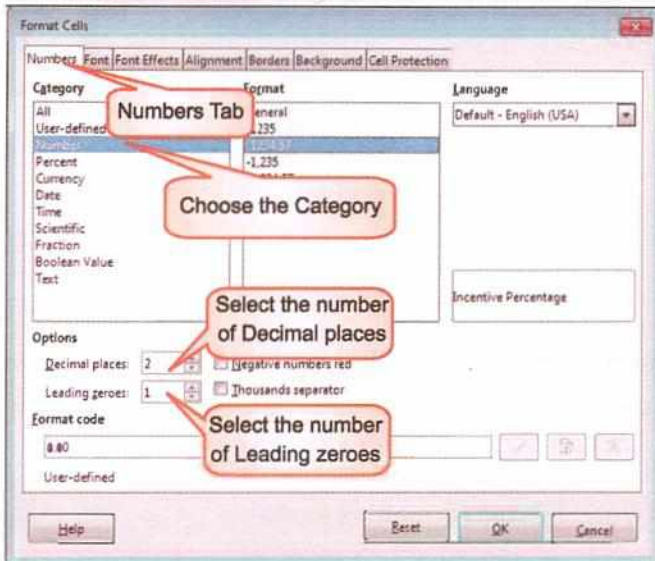


Fig. 12.2: Format Cells Dialog Box

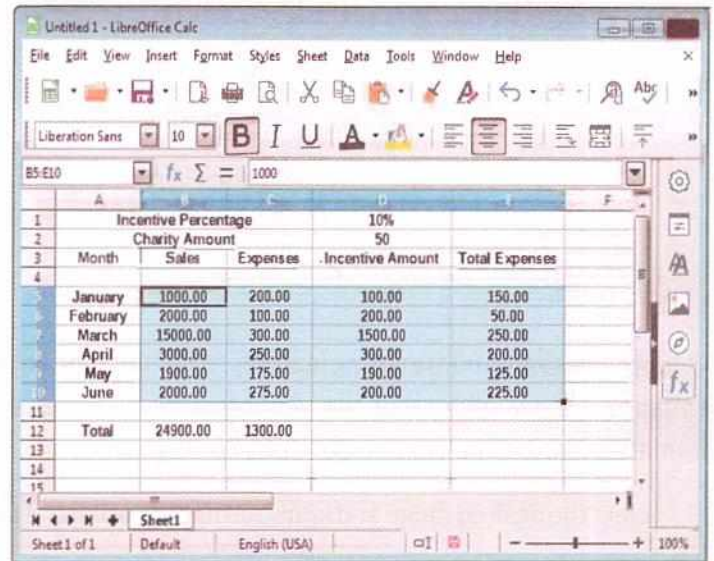


Fig. 12.3: Changing Number Formats

FORMATTING A RANGE OF CELLS AS LABELS

Sometimes, there is some numeric data that does not require being stored as numbers, for example, roll number, house number, pin code, telephone number, etc. These data values contain such numeric data that do not undergo any type of calculation. Therefore, this type of data can be formatted as text or labels. To do that:

- ✦ Select the range of cells to be formatted as labels.
- ✦ Click on **Format > Cells**. The **Format Cells** dialog box will appear on the screen.
- ✦ Click on the **Number** tab.
- ✦ Select **Text** under the **Category** section.
- ✦ Click on **OK**.

Observe that the data formatted as labels appear left-aligned.

FORMATTING A RANGE OF CELLS AS SCIENTIFIC

The Scientific format (also referred to as Standard or Standard Index Form) is a compact way to display very large or very small numbers. It is commonly used by mathematicians, engineers, and scientists. When using the Scientific format in Calc, the only option that you can set is the number of decimal places.

For example, instead of writing 0.000000014, you can write 1.4×10^{-9} . And if you apply the **Scientific** notation format to the cell containing 0.000000014, the number will be displayed as 1.4E-09.

FORMATTING A RANGE OF CELLS AS DATE AND TIME

Calc provides a variety of predefined Date and Time formats for different locales. Calc stores dates and times as decimal numbers that comprise an integer representing the date and a decimal portion representing the time.

All dates are stored as integers representing the number of days since January 1, 1900.

Time entries are stored in Calc as decimals, between .0 and .99999, that represent a proportion of the day where .0 is 00:00:00 and .99999 is 23:59:59.

	A	B	C
1	NAME	ROL NO	MARKS
2	Arun	4	94
3	Vasim	12	89
4	Ashish	28	82
5	Rafiq	6	95
6	Bhawna	17	63

Fig. 12.4: Formatting a Range as Label

1	0.000000014
2	1.90E-09
3	1.40E-09
4	1.50E-09
5	3.80E-09
6	0.000000014
7	0.000000014

Fig. 12.5: Formatting a Range as Scientific

1	1
2	2
3	01/02/1900
4	01/03/1900
5	01/04/1900
6	12:00:00 AM
7	05:28:00 AM
8	8
9	9
10	10

Fig. 12.6: Formatting a Range as Date/Time

FORMATTING TEXT

Calc offers various formatting features to improve the appearance of the text. We can change the text alignment, font, colour, size, style, etc., through these formatting effects. Let us learn them one by one.

TEXT ALIGNMENT

The **Alignment** tab is used to set the horizontal and vertical alignment of data in cells. To set a particular alignment, follow the given steps:

- Select the cell or range of cells to be aligned.
- Click on **Format > Cells**. The **Format Cells** dialog box will appear on the screen.
- Select the **Alignment** tab from the dialog box.
- Select the desired horizontal alignment from the **Horizontal** drop-down list.

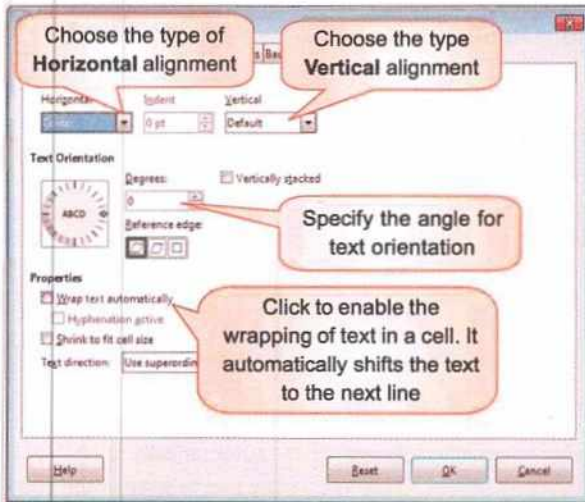


Fig. 12.7: Changing Text Alignment

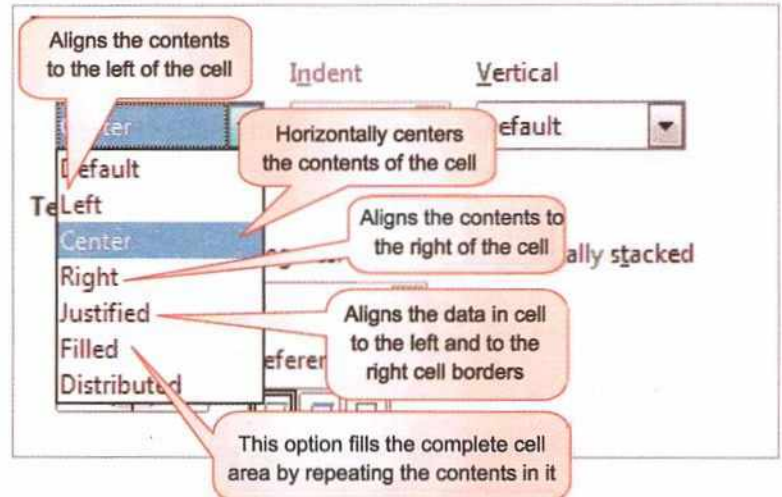


Fig. 12.8: Setting Horizontal Text Alignment

- Select the desired vertical alignment from the **Vertical** drop-down list.

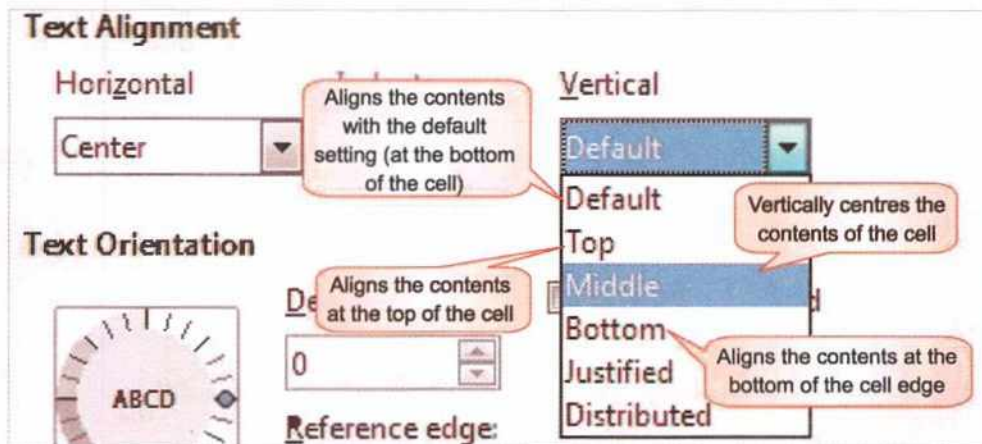


Fig. 12.9: Setting Vertical Text Alignment

- Click on **OK**. You can now notice the change in the alignment of the text.

	A	B	C	D	E
1	Incentive Percentage			10%	
2	Charity Amount			50	
3	Month	Sales	Expenses	Incentive Amount	Total Expenses

Fig. 12.10: Aligning Text in Centre

TEXT ORIENTATION

It is used to rotate the text through a specified angle. Text can be oriented in both up and down directions. Let us change the text orientation of the above data.

✦ Select the cell or range of cells and click on **Format > Cells**. Open **Alignment** tab from the **Format Cells** dialog box.

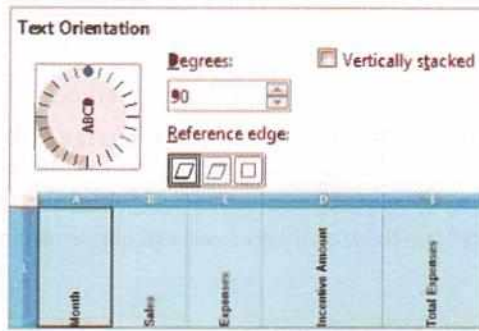



Fig. 12.11: Changing Text Orientation

✦ Under the **Text orientation** section, specify the angle in **Degrees**. If you enter a positive value, the text will rotate to the left and vice-versa.

✦ Select the desired **Reference edge** to indicate the cell edge from which to write the rotated text. Click on **OK** and note the change in text orientation. **Reference Edge** displays three options:

Text Extension from Lower Cell Border : It displays the rotated text from the bottom cell edge onwards.

Text Extension from Upper Cell Border : It displays the rotated text from the top cell edge upwards.

Text Extension Inside Cells : It displays the text only within the cell.

FORMATTING FONTS

We can change the Font Family, Font Style and Font Size of the text contained in the worksheet. Follow the steps given below to apply these formatting effects:

✦ Select the cell or range of cells to be formatted.

✦ Click on **Format > Cells**. The **Format Cells** dialog box appears on the screen.

✦ Select the **Font** tab from the dialog box.

✦ Select a Font family of your choice from the scroll list.

✦ Select a suitable **Font style** from the displayed list consisting of Regular, Bold, Italic, and Bold Italic options.

✦ Select the desired Font size for the content from the scroll list.

✦ Click on **OK** and observe the change.

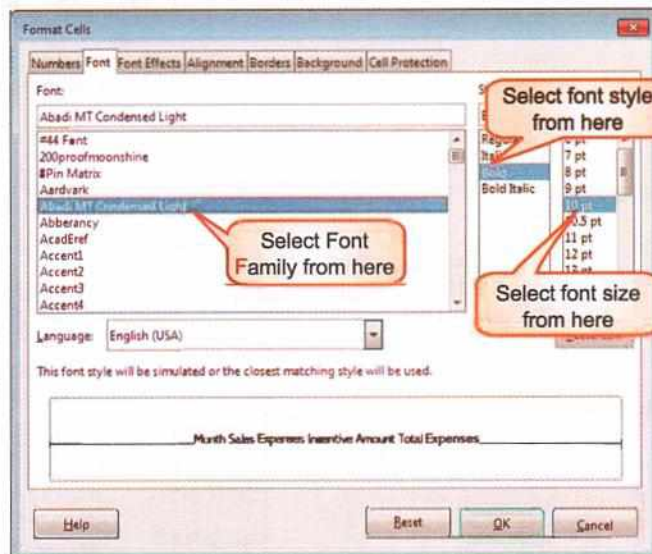


Fig. 12.12: Working with Fonts

Quick View

The shortcut key combination to open the **Format Cells** dialog box is **Ctrl+1**.



Know The Fact

On the **Alignment** tab, under **Properties** section, select **Wrap text automatically** to enable the text to wrap at the end of the cell.



Let Us Recall

What do you understand by **Text Wrapping**?

APPLYING FORMATTING EFFECTS USING FORMATTING TOOLBAR

We can also modify the Alignment, Font Family, Font Style, and Font Size using the tools present on the **Formatting** toolbar. It provides an easy access to the formatting options. As shown in the figure below, we can apply the formatting effects through the following buttons:

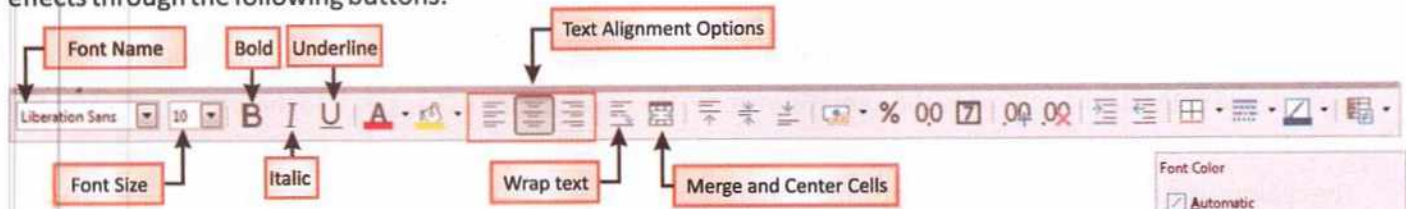


Fig. 12.13: Glimpse of Formatting Toolbar

To apply any of the above effects:

- Select the cell or range of cells.
- Click on the required option like, **Font**, **Font Size**, **Font Color**, etc., from the Formatting toolbar.

Pick the desired font colour.



Fig. 12.14: Selecting a Colour

WRAPPING THE TEXT

Wrapping the text means displaying multiple lines within the cell. The **Wrap Text** feature in Calc can help you display lengthy text in a single cell without moving the content to the other cells. When the text exceeds a column width, it is possible to wrap it, either manually or automatically.

Follow these steps to wrap the text in cells:

- Select the cells having the text which has to be wrapped.
- Select **Format > Cell**.
- Select **Alignment** tab in the **Format Cells**.
- Select **Wrap Text Automatically** from the **Properties** section.
- Calc automatically expands the row height in order to fit more than one line in a cell. This makes all the wrapped text entries visible.

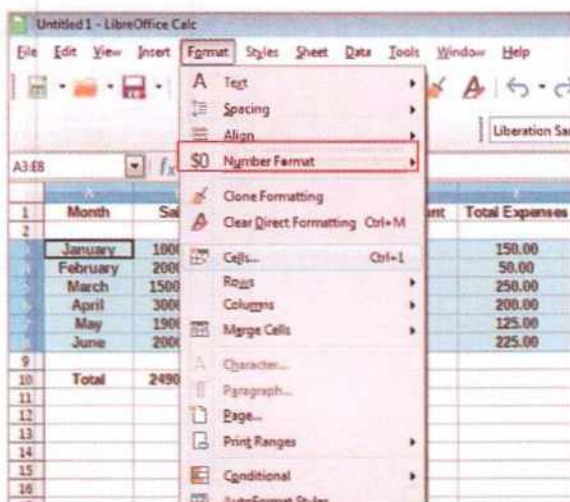


Fig. 12.15: Selecting Cells Option

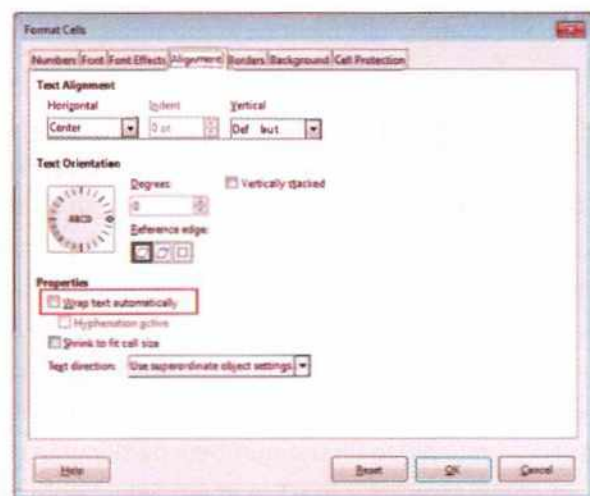


Fig. 12.16: Changing Column Width

CHANGING COLUMN WIDTH

Sometimes you see hash signs (#####) in a cell instead of the data that you have entered. These signs indicate that the column is not wide enough to display the cell content. By increasing the column width one can see the cell content properly. To change the column width:

- Place the pointer over the column line in the column heading so that the cursor becomes a double-headed arrow.
- Clicking and dragging the column to the right will increase the column width. Dragging it to the left will decrease the column width.
- The column width will be changed once the mouse is released.

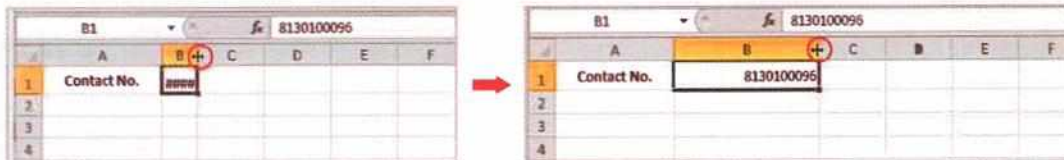


Fig.12.17: Changing Column Width

To set column width with a specific measurement:

- Select the columns that have to be modified.
- Select **Format > Column**.
- Enter the desired column width.
- The width of each selected column will be changed.

FILL HANDLE

In LibreOffice Calc, Fill Handle is a feature that allows the user to extend and fill a series of numbers, dates, or even text to a desired number of cells. In the active cell of the spreadsheet, the Fill Handle is a small black box at the bottom right corner, as shown in the figure here.

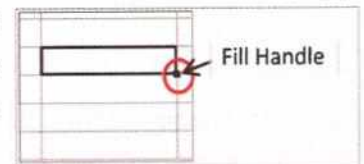


Fig. 12.18: Fill Handle

SPEEDING UP DATA ENTRY USING FILL HANDLE

Entering data into a spreadsheet can be very laborious and time-consuming, but Calc provides Fill Handle tool to ease your work. A shortcut way to fill cells is by dragging the Fill Handle tool in the direction you want to fill. If the cell contains a number, the number will be filled in the series. If the cell contains text, the same text will be filled in the direction you choose.

If you enter the number "1" in cell A1 and the number "2" in cell A2, you could extend the numbering sequence down through as many cells as you want. You can do this by selecting both the cells, then clicking on the fill handle with the left mouse button. Then drag the mouse down the spreadsheet in column A. If you drag-down to the cell A20, then cells A1 through A20 would now be sequentially numbered 1 to 20 without having to type each number individually. Similarly, to fill the numbers by skipping two digits, you need to write 2 in A1, 4 in A2. Select both the cells and drag the Fill Handle downwards to complete the series.

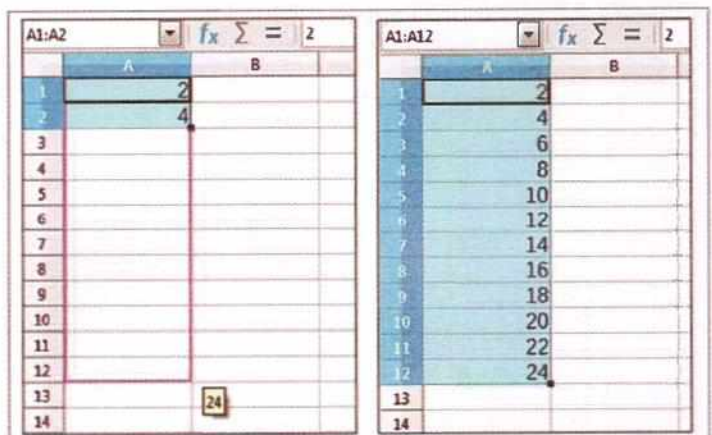


Fig. 12.18: Using Fill Handle to Generate a Series of 2

COPYING FORMULA WITH FILL HANDLE

When the same formula is needed to be applied in a continuous range of cells, then the Fill Handle makes the work easy and fast. Apply the formula on the topmost cell of the range and drag the Fill Handle through the range to the cell where the formula is to be copied. The formula gets automatically copied to all the cells of the range.

For example, in the figures below, sum of cells C3 to E3 is calculated in cell F3. Using the Fill Handle, the formula written in cell F3 is dragged and copied till cell F7. As a result, the formula gets copied to all the cells from cell F3 to F7.

	A	B	C	D	E	F
1	NAME	ROLL NO.	MARKS			TOTAL MARKS
2			ENGLISH	SCIENCE	MATHS	
3	Arun	4	94	78	91	263
4	Vasim	12	89	67	88	
5	Ashish	28	82	83	78	
6	Rafiq	6	95	92	84	
7	Bhawna	17	63	62	58	

	A	B	C	D	E	F
1	NAME	ROLL NO.	MARKS			TOTAL MARKS
2			ENGLISH	SCIENCE	MATHS	
3	Arun	4	94	78	91	263
4	Vasim	12	89	67	88	244
5	Ashish	28	82	83	78	243
6	Rafiq	6	95	92	84	271
7	Bhawna	17	63	62	58	183

Fig. 12.19: Using Fill Handle to Copy Formula



Answer the Following Questions:

1. What do you understand by wrapping the text?
2. Sometimes, hash signs (#####) are displayed in a cell instead of the actual data, why? How can you remove them?
3. How do we enter date and time in a Calc sheet?
4. Write the steps for converting numeric data into labels.
5. What is Fill Handle? What is its use?



ACTIVITY ZONE

For Better Concept Clarity

Let us write the following data in our worksheet and try to apply the formatting effects which you have learnt till now.

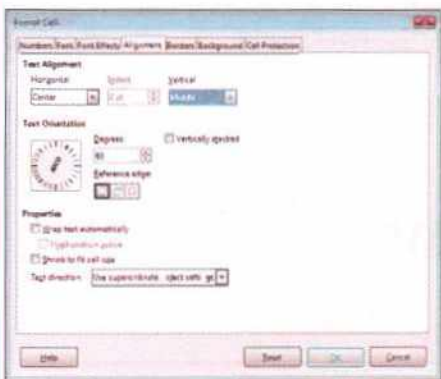
	A	B	C	D
1	Name	Location	DOB	Percentage in 10 th
2	Tina	Delhi	18/06/84	0.77
3	Riya	Mumbai	19/06/80	0.65
4	Mohit	Chandigarh	20/06/77	0.89
5	Vivek	Kolkata	21/06/77	0.9
6	Kushal	Pune	22/06/80	0.66
7				
8				

1. Convert the values of **Percentage in 10th** column to **Percent** format:

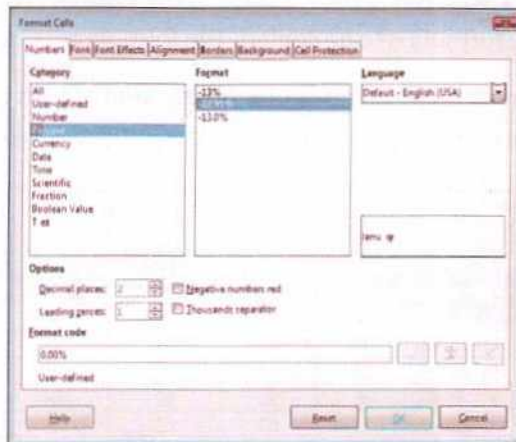
- ✦ Select the **Percentage in 10th** column and click on **Format > Cells**.
- ✦ Select the **Numbers** tab. Select **Percent** as the **Category** and choose the **Format as -12.95%**.
- ✦ Click on **OK**. Observe the desired change.

2. Set the **Horizontal Alignment** as **Center** and **Vertical Alignment** as **Middle** for the data in top row. Change the **Text Orientation** to 60 degrees:

- ✦ Select the top row and click on **Format > Cells**. Select the **Alignment** tab.

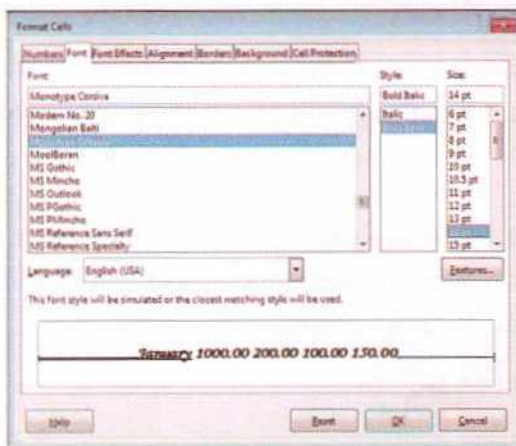


- ✦ Choose **Center** from the drop-down list of **Horizontal** alignment and **Middle** from the drop-down list of **Vertical** alignment.
- ✦ Click on the arrow key of the spinner box of **Degrees** to set it to 60 degrees from the **Text orientation** section. Click **OK**.



3. Select the **Name** column and change the **Font** to 'Monotype Corsiva', **Style** as 'Bold Italic', **Size** as '14' and **Color** as 'Red':

- ✦ Select the **Name** column and click on **Format > Cells**. Select the **Font** tab.
- ✦ Browse the list under **Font** category to select 'Monotype Corsiva'. Select **Bold Italic** from the **Style** list and select **Font Size** as **14**. Click on **OK**.



	Name	Location	DOB	Percentage in 10th
1				
2	Tina	Delhi	18/06/84	77.00%
3	Riya	Mumbai	19/06/80	65.00%
4	Mohit	Chandigarh	20/06/77	89.00%
5	Vivek	Kolkata	21/06/77	90.00%
6	Kushal	Pune	22/06/80	66.00%
7				

- ✦ Now, click on **Font Color** icon on the **Formatting Toolbar** and choose the **Font Color 'Red'**.
- ✦ After applying all the above formatting effects, the worksheet will appear as shown here.
- ✦ Save the modifications that you have made in the worksheet.

Cell Referencing

INTRODUCTION

The term **Referring** means indicating or mentioning. A cell reference refers to a cell or range of cells on a spreadsheet, that can be used in a formula or function from one cell to the next along the row or column.. A cell reference can be used to refer to the:

- data from one or more contiguous cells on the worksheet.
- data contained in different areas of a worksheet.
- data on other worksheets in the same workbook.

For example:

Formula	Refers
=SUM(C2,D8)	Cells C2 and D8
=SUM(A1:F4)	All cells from A1 to F4
=SUM(A1:F4, B7:G12)	All cells from A1 to F4 and B7 to G12
=Sheet2!B5	Cell B5 on Sheet2

There are three types of cell referencing in Calc. Let us discuss them in brief:

RELATIVE REFERENCE

Almost all spreadsheets use relative referencing as a default, e.g., D3, B24, A10:D16, etc. When a relative cell reference is copied across multiple cells, they get changed based on the relative position of rows and columns.

If you copy the formula =C3+D3+E3 from row 3 to row 4, the formula will automatically become =C4+D4+E4, as seen in the example below. If the same formula is pasted in cell I7, the formula will become =F7+G7+H7. The relative cell reference changes itself according to the relationship with the position in the cell(s) on the worksheet. Like, the formula in cell F3 refers to the addition of three corresponding cells to its left, therefore, wherever the formula is copied it carries the same relationship of adding its left three corresponding cells. Relative referencing is especially convenient when you need to repeat the same calculation across multiple rows or columns.

	A	B	C	D	E	
1	NAME	ROLL NO.	MARKS IN SUBJECTS			TOTAL MARKS
2			SCIENCE	MATHS	ENGLISH	
3	Arun	5	89	94	83	=C3+D3+E3
4	Vasim	12	78	90	79	
5	Ankita	7	69	74		
6	Dinesh	18	95	82		
7	Sakshi	2	64	88	73	
8	Ravi	9	59	67	50	

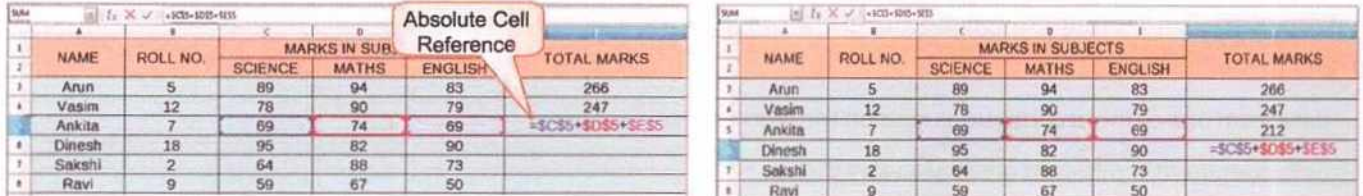
	A	B	C	D	E	
1	NAME	ROLL NO.	MARKS IN SUBJECTS			TOTAL MARKS
2			SCIENCE	MATHS	ENGLISH	
3	Arun	5	89	94	83	266
4	Vasim	12	78	90	79	=C4+D4+E4
5	Ankita	7	69	74	69	
6	Dinesh	18	95	82	90	
7	Sakshi	2	64	88	73	
8	Ravi	9	59	67	50	

Fig 13.1: Using Relative Reference

ABSOLUTE REFERENCE

Sometimes, you need to copy a formula in which the content of the cell(s) associated with this formula must be fixed. In that condition, absolute cell referencing is used. In this case, you can keep the cell address constant and it is designated in a formula by the addition of a dollar sign (\$) preceding the column and the row referenced, e.g., \$D\$3, \$B\$24, \$A\$10:\$D\$16, etc.

If you copy the formula = \$C\$5+\$D\$5+\$E\$5 from row 5 to row 6, the formula will remain = \$C\$5+\$D\$5+\$E\$5. If the same formula is pasted in cell I7, the formula will still remain = \$C\$5+\$D\$5+\$E\$5. Unlike relative reference, an absolute reference does not change with the change of its address.



NAME	ROLL NO.	MARKS IN SUB.			TOTAL MARKS
		SCIENCE	MATHS	ENGLISH	
Arun	5	89	94	83	266
Vasim	12	78	90	79	247
Ankita	7	69	74	69	= \$C\$5+\$D\$5+\$E\$5
Dinesh	18	95	82	90	
Sakshi	2	64	88	73	
Ravi	9	59	67	50	

NAME	ROLL NO.	MARKS IN SUBJECTS			TOTAL MARKS
		SCIENCE	MATHS	ENGLISH	
Arun	5	89	94	83	266
Vasim	12	78	90	79	247
Ankita	7	69	74	69	212
Dinesh	18	95	82	90	= \$C\$5+\$D\$5+\$E\$5
Sakshi	2	64	88	73	
Ravi	9	59	67	50	

Fig 13.2: Using Absolute Reference

MIXED REFERENCE

A mixed reference is a reference that refers to a specific row or column. It is a combination of relative and absolute referencing. In this case, either one of the row or column is absolute (fixed) and the other is relative (changeable), for example, D\$3, \$B24, \$A10:\$D16, etc.

If you copy the formula = \$C7+\$D7+\$E7 from row 7 to row 8, the formula will become = \$C8+\$D8+\$E8. If the same formula is pasted in cell I9, the formula will become = \$C9+\$D9+\$E9. Since the column reference is absolute, therefore, the column address will not change, whereas the relative row reference will change accordingly.



NAME	ROLL NO.	MARKS IN SUB.			TOTAL MARKS
		SCIENCE	MATHS	ENGLISH	
Arun	5	89	94	83	266
Vasim	12	78	90	79	247
Ankita	7	69	74	69	212
Dinesh	18	95	82	90	267
Sakshi	2	64	88	73	= \$C7+\$D7+\$E7
Ravi	9	59	67	50	

NAME	ROLL NO.	MARKS IN SUBJECTS			TOTAL MARKS
		SCIENCE	MATHS	ENGLISH	
Arun	5	89	94	83	266
Vasim	12	78	90	79	247
Ankita	7	69	74	69	212
Dinesh	18	95	82	90	267
Sakshi	2	64	88	73	225
Ravi	9	59	67	50	= \$C8+\$D8+\$E8

Fig 13.3: Using Mixed Reference



Answer the Following Questions:

1. What do you understand by Cell referencing?
2. Define the following with an example:
 - a. Absolute reference
 - b. Relative reference
 - c. Mixed reference
3. Differentiate between Absolute and Relative referencing.



ACTIVITY ZONE

For Better Concept Clarity

Prepare a worksheet as shown in Figure A. Calculate the allowances, deductions, and salaries of employees according to the following rules:

- ✦ HRA = 12% of Basic Pay
- ✦ DA = 10% of Basic Pay
- ✦ PF = 8% of Basic Pay
- ✦ Gross Salary = Basic Pay + HRA + DA
- ✦ Net Salary = Gross Salary - PF + TA + Bonus

	A	B	C	D	E	F	G	H
1	S.No.	NAME	BASIC PAY	HRA (12%)	DA (10%)	PF (8%)	GROSS SALARY	NET SALARY
2	1	Ashish Kumar	28000	=C2*12/100	=C2*10/100	=C2*8/100	=SUM(C2:E2)	=\$G2-\$F2+\$C\$13+\$G\$13
3	2	Arun Gaur	38500					
4	3	Vasim Saifi	35200					
5	4	Sakshi Sharma	20000					
6	5	Bhawna Oberoi	22800					
7	6	Mrinal Kumar	25000					
8	7	Jatinder Kaur	38700					
9	8	Abhay Dogra	40100					
10	9	Arpita Singh	42000					
11	10	Shilpi Mittal	43800					
12								
13		TA	1500			BONUS	10000	

Figure A

- ✦ Use Relative, Absolute, and Mixed referencing to refer the values in the formulas.
- ✦ Drag the Fill Handle of the cells to fill their respective columns accordingly.
- ✦ Observe the calculated values as shown in Figure B.

	A	B	C	D	E	F	G	H
1	S.No.	NAME	BASIC PAY	HRA (12%)	DA (10%)	PF (8%)	GROSS SALARY	NET SALARY
2	1	Ashish Kumar	28000	3360	2800	2240	34160	43420
3	2	Arun Gaur	38500	4620	3850	3080	46970	55390
4	3	Vasim Saifi	35200	4224	3520	2816	42944	51628
5	4	Sakshi Sharma	20000	2400	2000	1600	24400	34300
6	5	Bhawna Oberoi	22800	2736	2280	1824	27816	37492
7	6	Mrinal Kumar	25000	3000	2500	2000	30500	40000
8	7	Jatinder Kaur	38700	4644	3870	3096	47214	55618
9	8	Abhay Dogra	40100	4812	4010	3208	48922	57214
10	9	Arpita Singh	42000	5040	4200	3360	51240	59380
11	10	Shilpi Mittal	43800	5256	4380	3504	53436	61432
12								
13		TA	1500			BONUS	10000	

Figure B

Introduction to Charts

A chart is a graphical representation of data in a worksheet. It helps to provide a better understanding of large quantities of data. Charts make it easier to draw comparison, see growth and relationship among the values and trends in data. They provide an accurate analysis of information. LibreOffice Calc offers a wide range of charts to interpret data. These charts share some common features that assist the users to comprehend the data logically.

	A	B	C	D
1	Name	English	Hindi	Total
2	Kavyansh	65	67	132
3	Dinesh	76	45	121
4	Ravinder	78	66	144
5	Pardeep	56	65	121
6	Ashish	77	87	164
7				

Fig. 14.1: Sample Worksheet

TYPES OF CHARTS

BAR CHART

It illustrates the data comparison between individual items in cases when time is not an important factor. It displays data in the form of long rectangular bars. The categories are organised vertically and values horizontally.

You can also display the bar chart in **stacked** form to understand the relationship between different entities. They can be displayed as 2D or 3D graphics.

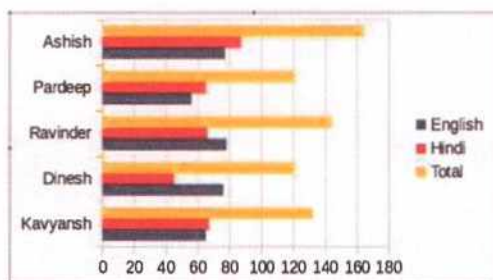


Fig. 14.2: Bar Chart

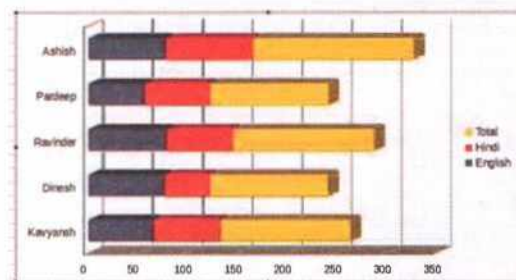


Fig. 14.3: Stacked Bar Chart

COLUMN CHART

It is used for displaying data that shows different trends over time. It is the default chart type of LibreOffice Calc. It is comparatively quite easy to understand. In this type of chart, categories are organised horizontally, and values vertically to emphasise on magnitude of change over time.

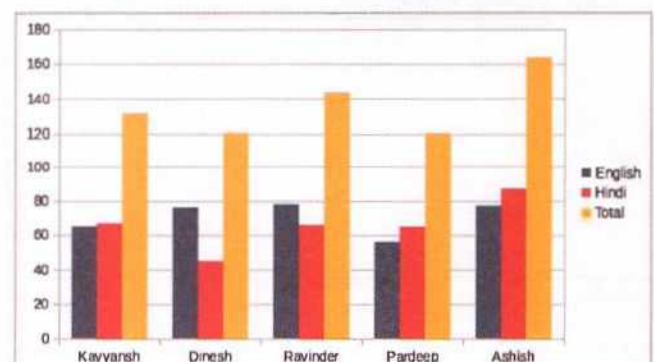


Fig. 14.4: Column Chart

LINE CHART

It is in the form of lines and used to illustrate the trends in data at equal intervals. It is useful in emphasising continuity by showing change in data over time. It is generally used to represent a huge amount of data. This type of chart is quite similar to plotting a graph on the graph paper with its values on the X-and-Y-axis.

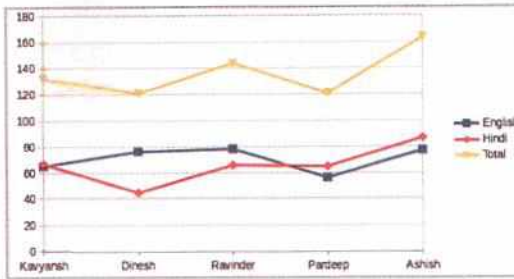


Fig. 14.5: Line Chart

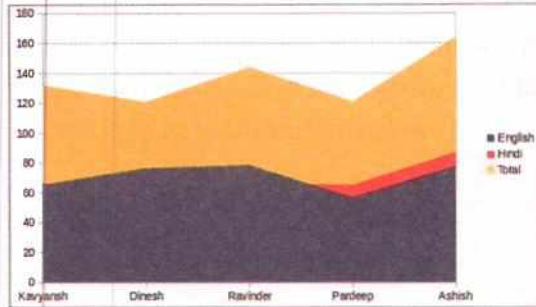


Fig. 14.6: Area Chart

XY (SCATTER) CHART

It either shows the relationships in several data series or plots two groups of numbers as one series of XY coordinates. This chart shows uneven intervals or cluster of data and is commonly used for displaying scientific data. The X-axis is usually assigned to an independent variable, the variable whose value is controlled or set by an individual. The Y-variable then becomes the dependant variable, the values that follow from each value of X.

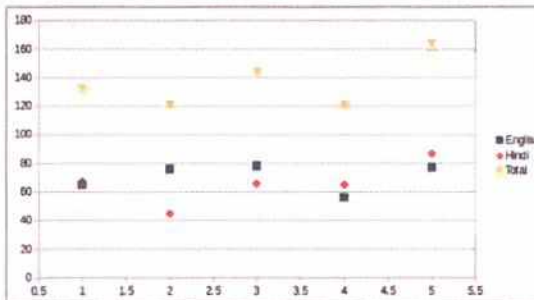


Fig. 14.7: XY (Scatter Chart)

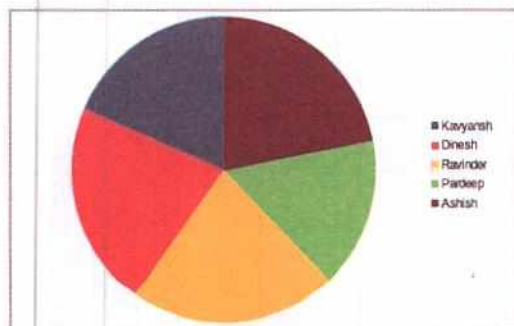


Fig. 14.8: XY (Scatter Chart)

PIE CHART

It displays data in the form of a circle. It shows the proportional size of individual items that makes up a data series to the sum of items. It always shows only one data series and is useful when you want to emphasise on a significant element. This chart works best with the small number of values.

Fact File

The first Pie Chart was seen in Villiam Playfair's book of 'Statistical Breviary' in 1801.



Let's Know More

A Bubble Chart is a variation of scatter chart in which the data points are replaced with bubble.

Let's Discuss

Bar Chart
VS
Column Chart



Know The Fact

In the 14th century, Bar Chart was used for the first time to plot the velocity of a constantly accelerating object against time.

DONUT CHART

It is a subtype of Pie Chart; displaying data as sections of a circle. A Donut Chart can have more than one data series, which attempts to add another dimension to the Pie Chart. It is best suited for showing the proportional nature of data. A Donut Chart represents data values as a percentage of the whole, while categories are represented by the individual slices.



Fig. 14.9: Donut Chart

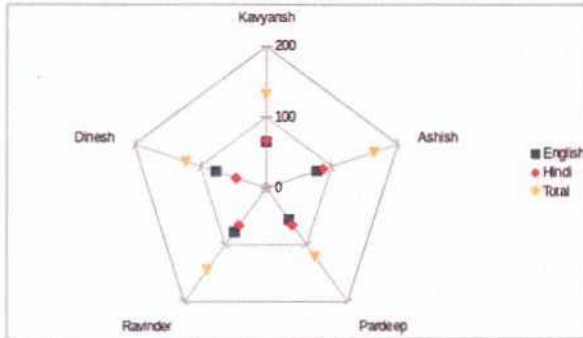


Fig. 14.10: Net Chart

NET CHART

It looks just like a spider's net. It displays data values plotted as points that are connected by lines to form a grid. It is useful for comparing data that is not time dependent but shows different circumstances, such as variables in a scientific experiment or direction. The poles of the Net chart are equivalent to the Y-axis of the other charts.

STOCK CHART

It is a type of column graph that has been designed specifically for plotting data values related to stocks and shares. The data required for these charts consists of a specific data series like opening price, closing price, and high and low prices. In this type of chart, the X-axis represents a time series.

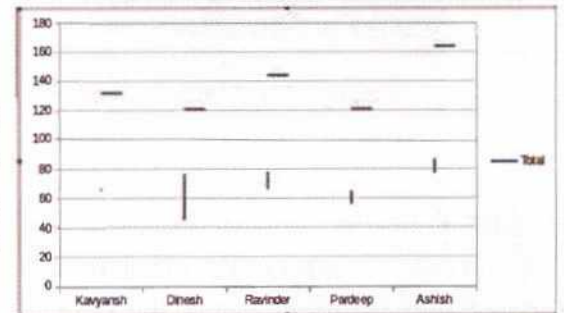


Fig. 14.11: Stock Chart

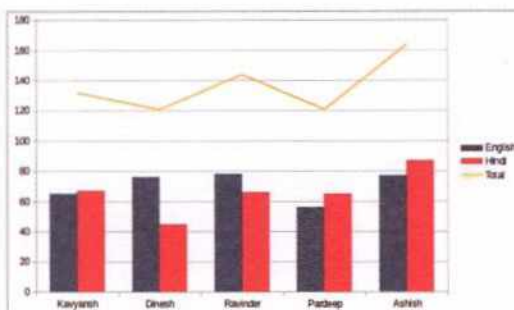


Fig. 14.12: Column and Line Chart

COLUMN AND LINE CHART

It is a combination of two other chart types. It is beneficial for combining two distinct but related data series, like sales overtime(column) with a profit margin trend(line).

COMPONENTS OF A CHART

Chart is an effective way to display the data in a pictorial form. A chart can be inserted after selecting the relevant data from the worksheet. Let us learn about the various components of a chart.

- 1. CHART AREA:** It includes all the area and objects in the chart.
- 2. CATEGORY AXIS:** Category axis or X-axis is the horizontal axis.
- 3. VALUE AXIS:** Value axis or Y-axis is the vertical axis used to plot the values.
- 4. DATA SERIES:** Data series are bars, slices, or other elements that show the data values.

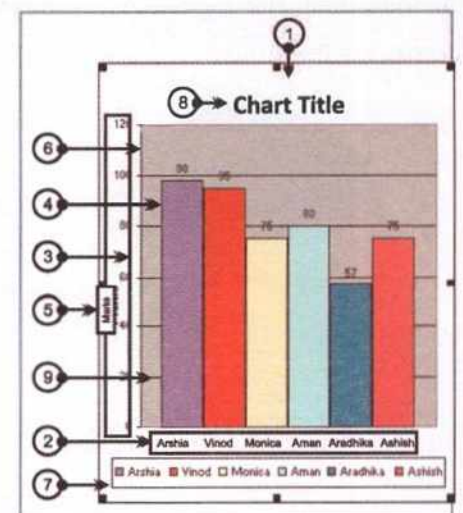


Fig. 14.13: Chart and Its Components

5. **CATEGORY NAME:** Category names are the labels displayed on the X- and Y-axis.
6. **CHART WALL:** Chart Wall is a window within the Chart area. It contains the actual chart itself and includes plotted data, data series, category, and value axis.
7. **LEGEND:** Legend depicts the colours, patterns, or symbols assigned to the data series.
8. **CHART TITLE:** It describes the aim and contents of the chart.
9. **GRIDLINES:** These can either be horizontal or vertical lines depending on the selected chart type. They extend across the plot area of the chart. They make it easier to read and understand the values.

Know The Fact




If you have not selected the source data for a chart, place the cursor anywhere in the area of the data. The **Chart Wizard** will then guess the range of data.

CREATING A CHART IN CALC

Calc offers the features to create an embedded chart in a worksheet. It is displayed along with source data and other information present in a worksheet. An embedded chart is saved with the corresponding worksheet when a workbook is saved.

Follow these steps to create a chart:

- Select the range of cells from the worksheet that contains the source data for the chart.
- Open the **Chart Wizard** dialog box using one of the two methods:
 - Click on the **Chart** icon  present on the Standard Toolbar. Or
 - Click on **Insert > Chart**.



	A	B	C	D
1	Name	English	Hindi	Science
2	Kavyansh	65	67	75
3	Dinesh	76	45	80
4	Ravinder	78	66	90
5	Pardeep	56	65	65
6	Ashish	77	87	85
7				

Fig. 14.14: Sample Data

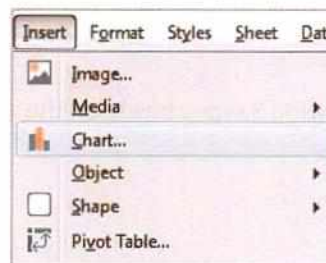


Fig. 14.15: Insert Menu

Let's Know More



Chart Floor is the lower area that forms the base in 3D charts. This component is not available in 2D charts.



ASSESSMENT TIME

Answer the Following Questions:

1. Define chart.
2. What is the use of inserting chart in a Calc worksheet?
3. What is the default chart type of LibreOffice Calc?
4. Define chart wall.

Know The Fact



The **Percentage Stacked** chart shows each value in the series as a part of the whole.





ACTIVITY ZONE

For Better Concept Clarity

The following data shows the grocery expenses for each month from January to December 2018. Create a worksheet showing the below mentioned data and save the workbook with the name Grocery_Spends_2018.

Month	Expenses
January	12800
February	13200
March	11950
April	12360
May	14110
June	10905
July	12150
August	11990
September	13350
October	18600
November	16500
December	15400

Create charts of the following 3 types based on the above data :

- ✦ Column chart
- ✦ Pie chart
- ✦ 3D Bar chart



Recap



- ✦ Formatting features help to make the worksheet more presentable.
- ✦ The number of decimal places and leading zeros can be formatted for a numeric data.
- ✦ The numeric data can be converted into labels by formatting them as Text.
- ✦ The Scientific format (also referred to as Standard or Standard Index Form) is a compact way to display very large or small numbers.
- ✦ All dates are stored as integers; representing the number of days since January 1, 1900.
- ✦ Time entries are stored in Calc as decimals, between .0 and .99999, that represent a proportion of the day where .0 is 00:00:00 and .99999 is 23:59:59.

- ✦ Calc stores dates and times as decimal numbers that comprises an integer representing the date and a decimal portion representing the time.
- ✦ Data written inside a cell can be aligned both vertically and horizontally.
- ✦ Data written inside a cell can be rotated at any angle by changing its orientation.
- ✦ The Wrap Text feature in Calc helps to display lengthy text in a single cell without moving the content it to the other cells.
- ✦ The Hash signs (#####) in a cell indicate that the column is not wide enough to display the cell content.
- ✦ Fill Handle feature allows to fill a series of numbers, dates, or even text to a desired number of cells.
- ✦ A relative cell reference gets changed relatively when the formula is copied to another cell.
- ✦ An absolute cell reference remains constant even when the formula is copied to another cell.
- ✦ In a mixed cell reference, you can keep a part of the reference, changeable whereas the other part constant.
- ✦ Charts help us to understand and compare large quantities of data easily.
- ✦ Charts make it easier to see growth and relationship among the values and trends in data.
- ✦ Bar Chart, Column Chart, Line Chart, Pie Chart are some of the most commonly used chart types.
- ✦ The relevant data stored on the worksheet on which the chart is based is called the source data of the chart. The chart can change itself automatically according to the change in the source data.
- ✦ Chart wizard helps in step-by-step process of creating a chart.



BRAIN DEVELOPER

SECTION 1: OBJECTIVE TYPE QUESTIONS-(SOLVED)

A. Multiple Choice Questions:

1. Which of the following techniques can be used to allow only a date value in cell?

a. Data formatting	b. Data sorting	c. Data filtering	d. Data validation
--------------------	-----------------	-------------------	--------------------
2. Which function is used to calculate the total number of numeric entries in a worksheet?

a. COUNT()	b. SUM()	c. CALCULATE()	d. AVERAGE()
------------	----------	----------------	--------------
3. If you copy the cell A5 containing the formula '=SUM(\$A\$1:\$A\$4)' to cell B5, what will be shown in cell B5?

a. =SUM(B1:B4)	b. =SUM(\$B\$1:\$B\$4)	c. =SUM(A1:A4)	d. =SUM(\$A\$1:\$A\$4)
----------------	------------------------	----------------	------------------------
4. How many axes does a column chart in Calc have?

a. One	b. Two	c. Three	d. Four
--------	--------	----------	---------

5. From which menu can you insert a chart on your worksheet?
 - a. Edit
 - b. Format
 - c. Insert
 - d. Data
6. A Calc function can begin with:
 - a. =
 - b. +
 - c. -
 - d. All of the above
7. allows the user to extend a series of data and thus results into speeding of data entry.
 - a. Fill handle
 - b. Data filtering
 - c. Sorting
 - d. Copying
8. If I want to copy a formula from one cell to another and keep the rows references fixed while the column references change, what kind of referencing should I use?
 - a. Relative
 - b. Absolute
 - c. Mixed
 - d. None of the above
9. is the value axis in a column chart.
 - a. X-axis
 - b. Y-axis
 - c. Z-axis
 - d. None of the above
10. depicts the colours, patterns, or symbols assigned to the data series in a chart.
 - a. Category
 - b. Chart area
 - c. Axis
 - d. Legend

B. Fill in the Blanks:

1. The column immediately next to column Z is
2. The small black box at the bottom-right corner of the active cell that lets you fill a series quickly is called as
3. The formula "=AVERAGE(D5:D12)" stored in cell D13 when copied to cell F13 changes to
4. The formula in cell A4 is =B4+C5. On copying this formula to cell C4, C4 will change to
5. Labels entered into a cell are automatically aligned.
6. The absolute cell reference of the cell formed by the intersection of the sixth column and ninth row will be
7. The formula to calculate the sum of first 15 rows of second column of the worksheet is
8. is a window within the Chart area that contains the actual chart itself and includes plotted data, data series, category, and value axis.
9. The chart icon is present on the toolbar.
10. The chart is a subtype of Pie chart; displaying data as sections of a circle.

C. State True or False:

1. There can be any number of worksheets in a Calc workbook.
2. In a spreadsheet, you can align the cells horizontally but not vertically.
3. Cell orientation can be changed to 90 degrees.

4. Fill handle cannot be used to fill the series of dates.
5. Calc stores dates and times as numeric values.
6. F\$8 is an example of mixed referencing.
7. COUNT() function is used to calculate the total number of label entries in the cells.
8. Charts make it easier to understand and compare large quantities of data.
9. A bar chart can be displayed in 2D and 3D formats.
10. A line chart is used to illustrate trends in data at equal intervals.

ANSWERS

A. Multiple Choice Questions

1. (d) 2. (a) 3. (d) 4. (b) 5. (c) 6. (d) 7. (a) 8. (c) 9. (b) 10. (d)

B. Fill in the Blanks

1. AA 2. Fill Handle 3. =AVERAGE(F5:F12) 4. =D4+E5 5. Left 6. \$F\$9 7. =SUM(B1:B15) 8. Chart Wall
9. Standard 10. Donut

C. State True or False

1. (F) 2. (F) 3. (T) 4. (F) 5. (T) 6. (T) 7. (F) 8. (T) 9. (T) 10. (T)

SECTION 2: THEORY QUESTIONS-(SOLVED)

1. What is cell referencing?

Ans. Cell referencing is the method by which a cell or series of cells is referred in a formula. For example, A1 refers to the cell at the intersection of column A and row 1.

2. What are the various types of cell referencing in Calc?

Ans. Calc uses three types of cell referencing: Relative, Absolute, and Mixed. Relative references change when a formula is copied to another cell. Absolute references remain constant no matter where they are copied. Mixed references are used when you want to change either the row reference or column reference when the formula is copied. For example, B4 is relative reference, \$B\$4 is absolute reference, and B\$4 is mixed reference.

3. What is Fill Handle?

Ans. Fill Handle is a feature that allows the user to extend (and fill) a series of numbers, dates, or even text to a desired number of cells. In the active cell of the spreadsheet, the Fill Handle is a small black box at the bottom-right corner.

4. What is the purpose of inserting chart in Calc worksheet?

Ans. Chart helps to provide a better understanding of large quantities of data through graphical representation. They also make it easier to draw comparison, see growth and relationship among the values, and trends in data. They provide an accurate analysis of information.

5. Name some commonly used chart types in Calc.

Ans. Bar Chart, Column Chart, Line Chart, Area Chart, XY (scatter) Chart, Pie Chart and Donut Chart are some of the most commonly used chart types in Calc.

SECTION 3: APPLICATION BASED QUESTION-(SOLVED)

Abhay is working on his Social Science project. He is trying to record some data on a spreadsheet about some Indian cities. He has recorded the below-mentioned data.

	A	B	C	D	E	
1		Today's Date :				
2						
3		CITY	TEMP (Celsius)	TOTAL POPULATION	NO. OF VOTERS	NO. OF NON-VOTERS
4		Lucknow	32	2820000	1949956	
5		Surat	32	4460000	1484068	
6		Delhi	31	19000000	14316453	
7		Goa	30	1820000	1127007	
8		Mumbai	33	18400000	9639000	
9		Chennai	34	7090000	4006700	
10		Srinagar	16	1180000	120523	
11		Amritsar	27	1130000	147726	

How will he perform the following on this data?

- Enter today's date in cell D1.
- Convert the temperature data into labels.
- Find which city has the maximum population.
- Find which city has the minimum population.
- Calculate the total population of the given cities.
- Find the average number of voters.
- Calculate total number of non-voters in Lucknow in cell E4.
- Copy the same formula from cell E4 to cells E5 to E11.
- Convert the total population data into scientific notation.

Ans. Do the following on the spreadsheet data:

- =TODAY()
- Select B4 to B11, Format > Cells, choose Text in Numbers tab.
- =MAX (C4:C11)
- =MIN (C4:C11)
- =SUM (C4:C11)
- =AVERAGE (D4:D11)
- =C4-D4
- Drag the fill handle from cell E4 to cell E11.
- Select cells C4 to C 11, Format > Cells, choose Scientific in Numbers tab.

	A	B	C	D	E	
1		Today's Date :		10/04/19		
2						
3		CITY	TEMP (Celsius)	TOTAL POPULATION	NO. OF VOTERS	NO. OF NON-VOTERS
4		Lucknow	32	2.82E+06	1949956	870044
5		Surat	32	4.46E+06	1484068	2975932
6		Delhi	31	1.90E+07	14316453	4683547
7		Goa	30	1.82E+06	1127007	692993
8		Mumbai	33	1.84E+07	9639000	8761000
9		Chennai	34	7.09E+06	4006700	3083300
10		Srinagar	16	1.18E+06	120523	1059477
11		Amritsar	27	1.13E+06	147726	982274
12						
13		Maximum Population		19000000		
14		Minimum Population		1130000		
15		Total Population		55900000		
16		Average Voters		4098929.125		

SECTION 4: THEORY QUESTIONS-(UNSOLVED)

1. Why do you need formatting features in Calc?
2. How to format numbers into labels and scientific notation in Calc?
3. Write the mechanism of changing the text alignment.
4. How can you change the orientation of text written in the spreadsheet cells?
5. How will you format cells to enter date?
6. What happens if you enter large amount of data in a narrow column? What is the process of changing the column width?
7. What is the benefit of using Fill Handle?
8. Explain cell referencing and its types with example.
9. What is a chart? Why do you use chart in Calc?
10. How will you insert chart on a Calc spreadsheet?

SECTION 5: APPLICATION BASED QUESTION-(UNSOLVED)

Aditya is helping his father in calculating the salaries of employees, who work in the accounts department of his company. Given below is the data on department-wise initial salaries of employees for the year 2017.

Department Wise Salary Increment		
Initial Salary		
S.No.	Department	2017
1	Marketing	45000
2	Sales	30000
3	Content	30000
4	Human Resource	20000
5	Administration	25000
6	IT	40000
7	Accounts	30000

On the basis of the given data, Aditya needs to do the following:

- a. Calculate the salary for the year 2018 with an increment of 22% for all the departments.
- b. Calculate the salary for the year 2019 with an increment of 30%.
- c. Calculate the department-wise average of initial salaries for three years.
- d. Calculate the yearly average of initial salaries for all three years.
- e. Create a chart to show the comparison of salaries yearly as well as department-wise.



ACTIVITY ZONE

For Better Concept Clarity

Create the following Calc sheet to calculate the actual sales for different quarters for the ABC Company.

	A	B	C	D	E	F	G
1	REGION WISE SALES REPORT OF ABC COMPANY						
2	Region	Quarter 1 (Rs.)	Quarter 2 (Rs.)	Quarter 3 (Rs.)	Quarter 4 (Rs.)	Actual Sales	Projected Sales
3	North	50000.00	4500.00	31000.00	4500.00	90000.00	90000.00
4	East	4500.00	5000.00	5343.00	3067.00		40000.00
5	West	3067.00	1200.00	23870.00	1200.00		34900.00
6	South	50000.00	5400.00	3067.00	5400.00		70000.00

Do the following on the data:

- ✦ Calculate the sum of all quarters in Actual Sales.
- ✦ Validate cells B3 to G6 so that they can contain only numbers.
- ✦ Calculate the total sales of each quarter, total actual sales, and total projected sales in row 7.
- ✦ Find out which quarter has given the highest and lowest sale.
- ✦ Create a column chart to compare the region-wise sales of four quarters.
- ✦ Create a line chart to compare the region-wise actual and projected sales.



Characteristics of a Good Presentation

Over the last two decades, our lives have slowly been taken over by technology. The rapid development of technologies has considerably influenced mankind. The advent of advanced presentation graphics software has replaced the overhead projectors and transparencies of bygone days. The conventional method of presenting information is being gradually replaced by digital presentation. It has become more colourful, comprehensive, and appealing, which has made the process of delivering information more interactive, effective, and easy to comprehend.

Presentation software is application software, which is used to create multimedia presentations in the form of slide shows.

A **presentation** is a collection of slides arranged in a sequential manner to convey, persuade, motivate, and entertain or to provide information. It can be projected on a big screen by attaching the computer with a multimedia projector. The maximum usage of presentations can be seen in the fields of entertainments, educations, corporate training sessions, seminars, and conferences.

Some of the most popular presentation software are:

- ✦ LibreOffice Impress
- ✦ OpenOffice Impress
- ✦ Adobe Connect
- ✦ Microsoft PowerPoint
- ✦ Google Slides (Part of G Suite)

A **slide** can be defined as a digital or an electronic page of a presentation. A **slide show** is a sequential display of slides, which is shown to the audience with an objective of providing information and exchanging ideas/views on a particular topic.

ELEMENTS OF PRESENTATION

A presentation can be made more interesting and effective by including:

- ✦ Regular Text, Lists items
- ✦ Background and Title
- ✦ Graphical elements like, Clip Arts, Shapes, Diagrams, 3D objects, Table, etc.
- ✦ Audio and videos
- ✦ Transitions and animation
- ✦ Footer
- ✦ Date and time
- ✦ Slide number

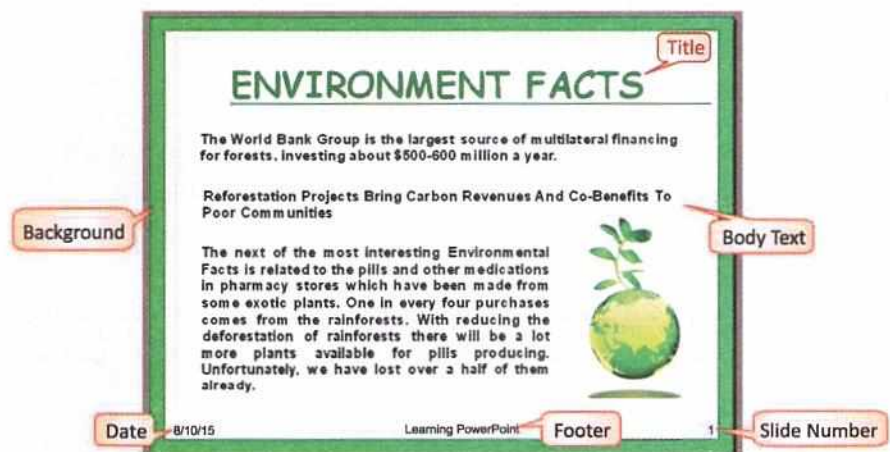


Fig. 15.1: Basic Elements of a Slide

CHARACTERISTICS OF A GOOD PRESENTATION

A presentation is powerful communication tool to present the views and ideas effectively through visual aids. You should follow certain guidelines to create a good quality presentation as listed below:

WELL DESIGNED

A presentation should be carefully framed keeping in view the situation, audience, and subject. Make sure that the slides are not too complicated. If they are difficult to understand, the audience will lose the attention.

NUMBER OF LINES

You should include only a maximum 5 to 8 lines in a slide, and write in sentence fragments using keywords. Also, you should keep the font size to 24 or bigger.

USE OF COLOURS

Make sure that your presentation is attractive and appealing. You should avoid light colours or busy backgrounds. Always use dark colours, bold letters, and different fonts to highlights some points. A striking colour contrast between words, graphics, and the background can be very effective in conveying both, message and emotions. Use easy-to-read fonts such as Arial and Times New Roman.

FORMAT FOR PERFECTION

Make sure that your text is appealing and aligned properly in slides. If you have crowded slides in your presentation then people will be busy reading text and will not be able to listen to you. So, you should not include any unnecessary information in your slide. If there is anything that you need to show in detail, then split it into separate slides or try to explain it through a chart or image.

USE HIGH-QUALITY GRAPHICS

You should include high-rise graphics. Also, avoid inserting more than two graphics on a single slide. If you include more than two graphics then it makes the slide crowded.

ANIMATIONS AND VIDEOS

Use of transitions, animation, and videos serve as a change of pace thereby increasing the interest of your audience. However, you should not use more than one animation or video on a single slide, and also avoid using excessively complicated transitions. It loses credibility with your audience.

CORRECT USE OF GRAMMAR AND LANGUAGE

Make sure that there are no spelling and grammatical errors in your presentation content. You must do a spell check on all the slides of your presentation before finalising it. You should also use direct and concise language.

KEEP IT SIMPLE

Always try to keep your presentation simple by using charts, which are easy to understand and graphics that reflect what you are saying. The thumb rule for making a good presentation is to ensure that there are not more than five words in each line and not more than five lines in each slide.

MINIMISE FACTS AND FIGURES IN SLIDES

You should avoid to include too many figures and numbers.

EDIT RUTHLESSLY

After creating all the slides, imagine yourself as one of the listeners, and critically review your presentation. If you find something unappealing, distracting, or confusing, either modify or remove it.

POWERFUL FIRST IMPRESSION

First impression is the last impression. You cannot make a first impression twice. The audience will make decisions about you from your first appearance, your words, and the intonation of your voice. Plan the opening of your presentation precisely. Use short sentences and keep minimum technical information. Grab the attention of your audience with a joke, an interesting fact, a short anecdote, a quotation, a positive statement, or a stimulating question, etc.



Answer the Following Questions:

1. What is a presentation?
2. List the different elements of a presentation.
3. Distinguish between slide and slide show.
4. List any three presentation software.
5. What points should you remember while making a presentation?



ACTIVITY ZONE

For Better Concept Clarity

List the possible multimedia contents that are included while creating a presentation. Also, prepare a storyboard of the presentation that you wish to create.



Getting Started with LibreOffice Impress

LibreOffice Impress is a popular presentation software. It comes as an integral part of the LibreOffice Suite. Impress allows you to create dynamic slide presentations that can include text, pictures, charts, diagrams, audio, videos, narration, transitions, and animation.

STARTING LIBREOFFICE IMPRESS

- ✦ You can open the LibreOffice Impress 6.2 on your computer using any of the following ways:
 - ✦ Open the Start menu on your computer and select the **LibreOffice 6.2 > LibreOffice Impress** from the Programs list. Or
 - ✦ Type **Impress** in the **Search bar**, choose application name, and press the **Enter** key to open it. Or
 - ✦ Double-click on the **LibreOffice Impress** shortcut icon, if it is available on the desktop. Or
 - ✦ Open the **LibreOffice** suite using the **Start** menu or **Search bar**. The LibreOffice suite window appears. Select **Impress Presentation** under **Create**.
- ✦ You will find a window with a list of predefined templates. We will learn how to use the templates to create the presentation later on.
- ✦ Click on **Close** or **Cancel** button to close this window. You can also uncheck the **Show this dialog at startup** checkbox to avoid seeing this window every time you start Impress.
- ✦ A blank presentation named **Untitled 1** with a **Title Slide** layout appears.



Fig. 16.1: Starting LibreOffice Impress

PARTS OF LIBREOFFICE IMPRESS WINDOW

The main components of the Impress window are as follows:

SLIDES PANE

It contains thumbnail pictures of the slides in your presentation. They are given in the same order as they will be shown in a Slide Show. If you want to see the large view of any thumbnail, click on it. The selected slide appears in the workspace.

WORKSPACE

It is the blank area in the middle of the window where a slide is displayed. By default, a slide appears in Normal view. You can change the default view in Outline view, Notes view, or Slide Sorter view. All these views are available under the **View** menu. You can also access the views by clicking on the drop-down arrow of **Display Slides** on the **Standard** toolbar.

SIDEBAR

It contains eight buttons — Sidebar Settings, Properties, Slide Transition, Animation, Master Slides, Styles, Gallery, and Navigator. These buttons enable you to make changes in settings of Sidebar, and allow you to format the presentation.

TITLE BAR

This bar is located at the top of the Impress window. It displays the current presentation (Untitled 1) and the name of the application (LibreOffice Impress). The Minimize, Maximize or Restore Down, and Close buttons are present on its extreme right.

MENU BAR

The Menu bar includes all the menus present in the Impress application, like File, Edit, View, Insert, etc.

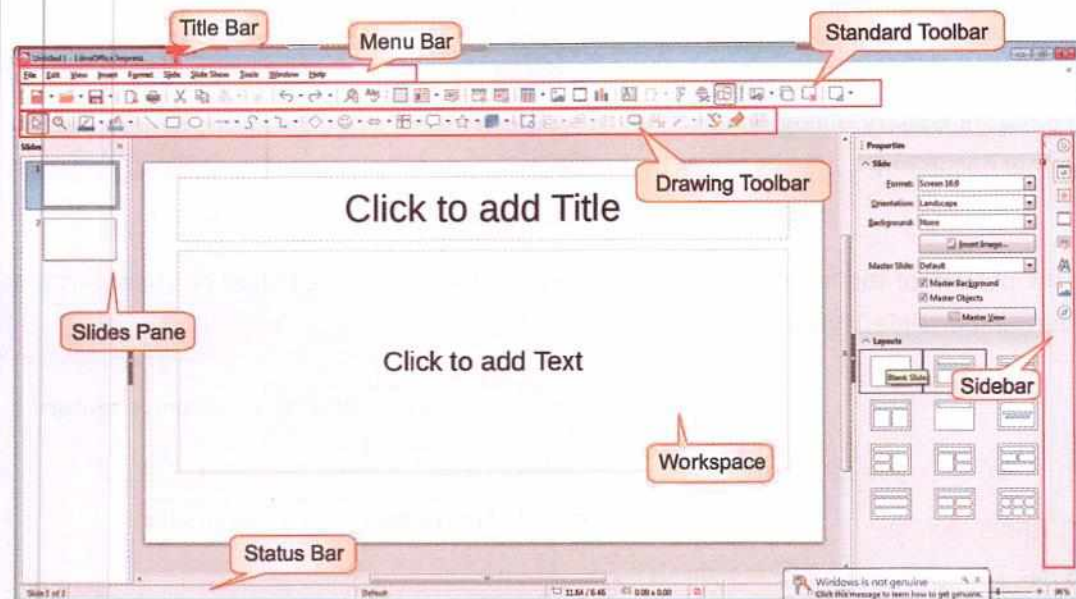


Fig. 16.2: Components of Impress Window

STANDARD TOOLBAR

This bar is placed below the Menu bar. It contains the shortcut icons for the most frequently used commands in Impress. Some of its tools are :

New : It creates a new LibreOffice document.

Open : It opens an existing file from your system or remote location.

Save : It saves the current document.

Save As : It saves the current document in a different location or with a different file name or file type.

Export As PDF : It saves the current file to Portable Document Format (PDF) . A PDF file can be viewed and printed on any platform with the original formatting intact.

Print : Click on the **Print** icon to print the active document. The Print dialog box opens. It contains different options that you use to take printouts.

Cut : It copies the selection to the clipboard and removes it from its original location.

Copy : It copies the selection to the clipboard while keeping it in the original location as well.

Know the Fact

By default, LibreOffice Impress application opens with the **Title Slide** as its first slide.

Let's Know More

To customize the Sidebar, click on the **Sidebar Settings** icon and select **Customization**. A submenu appears. A submenu appears. By default, all features are selected. Uncheck the option you do not want to view on the Sidebar.


Let's Know More


Many toolbars can be used during slide creation. They can be displayed or hidden by going to **View > Toolbars** on the Menu bar.


Let's Discuss


Slide vs Presentation

Paste : It inserts the contents of the clipboard at the location of the cursor.


Clone Formatting : First select some text or an object, then click on the **Clone Formatting** icon on the Standard toolbar. Now, click on an object to apply the same formatting.

Undo : It reverses the last given command or the last entry you typed. To select a previous operation upto which you want to reverse, click on the arrow next to the **Undo** icon on the Standard toolbar.

Redo : It reverses the action of the last Undo command. To select the Undo step that you want to reverse, click on the arrow next to the **Redo** icon on the Standard Toolbar.

Spelling : It checks the document or the current selection for spelling errors.

Insert Hyperlink : It opens a dialog box that enables you to create and edit hyperlinks.

Fontwork : It opens the **Fontwork Gallery** dialog box from which you can insert styled text not possible through standard font formatting into your document.

STATUS BAR

The Status bar is located at the bottom of the Impress window. It displays information, like cursor position, unsaved changes, digital signature, slide number, slide, style, zoom slider, etc.

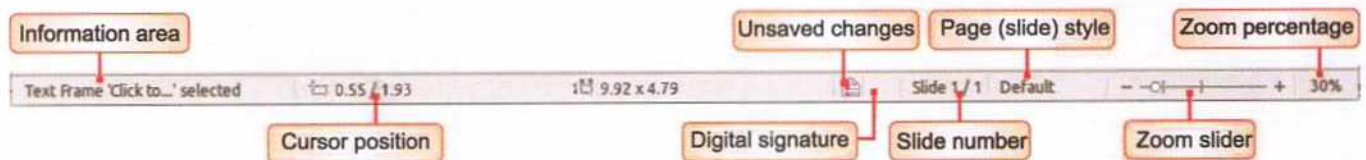


Fig. 16.3: Status Bar

From left to right, you will find:

Information Area: It changes depend on the selection. For example:

Example selection	Examples of information shown
Text area Text	Edit: Paragraph x, Row y, Column z
Charts/Spreadsheets	Embedded object (OLE) "ObjectName" selected
Graphics	Bitmap with transparency selected

Cursor Position: It is the position of the cursor or the top-left corner of the selection measured from the top-left corner of the slide, followed by the width and height of the selection or text box where the cursor is located.

Unsaved Changes: The highlighted **Save** icon on the status bar indicates that the document has been modified. Click on the icon to save the changes done by you.

Digital Signature: It is a flag indicating whether the document is digitally signed. After the file has been saved, click on this flag to open the digital signatures dialog box.

Slide number: This section on the status bar displays current slide number and the total number of slides in the presentation.

Fit Slide to Current Window: It makes the slide appear at the centre of the workspace.

Text Language: It shows the language dictionary which is currently in use. To choose new a new dictionary, right-click on the dictionary section and select the **More** option. The **Language Settings** dialog box opens. Here, select the dictionary of your choice and click on OK.


Zoom Slider: It adjusts the zoom percentage of the Workspace displayed.


Zoom Percentage: It indicates the zoom percentage of the workspace displayed. Click on **Zoom percentage** to open the **Zoom & View Layout** dialog box. Here, you can select the different options to reduce or enlarge the screen display.


You can hide the Status bar and its information by clicking on **View** on the Menu bar and deselecting the **Status Bar** option.

DRAWING TOOLBAR


It contains the icons of the most commonly used drawing tools, like shapes, text, images etc., which can be used to beautify the slides. Some of the tools present in Drawing toolbar are:

Select  : It is used to select an object on the current slide, click on the **Select** tool (white arrow) on the Drawing toolbar, and then click on the object.


Rectangle  : It draws a filled rectangle on your current workspace. Click where you want the rectangle, and drag to the size you want. To draw a square, press the Shift key while dragging.

Ellipse  : It draws a filled oval on your current workspace. Click where you want to draw the oval, and drag to the size you want. To draw a circle, hold the Shift key while dragging.

Curve  : It draws various types of freeform or filled curves and polygons.

Connectors  : It draws connectors to connect two or more objects in the current slide. A connector is a line that joins objects, and remains attached when the objects are moved. If you copy an object with a connector, the connector is also copied.

Lines and Arrows  : It draws various types of lines and arrows.


3D Objects  : It draws three-dimensional objects that have depth, illumination, and reflection, such as Cube, Sphere, Cylinder, Cone, Pyramid, Torus, Shell, and Half-Sphere.

Basic Shapes  : It draws basic shapes on your current workspace like, Rectangle, Square, Circle, etc.


Symbol Shapes  : It draws symbols like, Smiley Face, Sun, Moon, Star, Flower, etc. on your current workspace.

Block Arrows  : It draws various types of arrows on your current workspace.


Flowchart  : It draws the shapes used in a flowchart on your current workspace.

Callouts  : It draws various types of callouts on your current workspace.

Stars and Banners: It draws various types of star and banner shapes on your current workspace.

Points  : It highlights selection points on your drawing. The selection handles are used for moving, rotating or changing the shape of an object.

Glue Points: It enables you to edit glue points on your drawing. Glue points are used to fix or glue a connector to an object so that when the object moves, the connector stays fixed to the object.

Rotate  : It enables you to rotate the object.

Align  : It modifies the alignment of selected objects.

Arrange : It changes the stacking order of selected objects.

Toggle Extrusion: It turns ON or OFF 3D effects for the selected objects.

CLOSING LIBREOFFICE IMPRESS

You can close the LibreOffice Impress window by using any of the following ways:

- + Click on the **File** menu and select the **Exit LibreOffice** option. Or
- + Click on the **Close** button on the top-left corner of the application window. Or
- + Press the shortcut key **Ctrl+Q**. Or
- + If the document has been saved, Impress closes immediately.
- + If the document has been modified but not saved, a warning message appears. Choose the desired option to close the document, save it or discard the changes.

CREATING A NEW PRESENTATION USING A TEMPLATE

Templates are built-in designs used for creating a presentation. They include predefined elements like layouts, backgrounds, and colour schemes, text styles, etc. The following steps can be used to create a presentation using a template:

- + The first screen after opening Impress shows a list of templates to choose from. Or
- + Open the **File** menu and choose **New > Templates** (Ctrl+Shift+N).
- + Select a template of your choice. Click on **Open**.
- + The new presentation opens with the design and properties of the template chosen. The slides are pre-designed but the text and object areas are kept empty for you to enter the content.
- + Enter the text, objects, and images on the slides.
- + You can also change the style and formatting of the slide as per your choice.

CREATING A BLANK PRESENTATION

You can create a new presentation by using any of the following ways:

- + When you open Impress, you get a new presentation that contains only one empty slide. Or
- + To open a new presentation, click on the drop-down arrow next to the **New** icon present on the **Standard** toolbar and select **Presentation**. Or
- + Click on **File > New > Presentation**. Or
- + Press **Ctrl+N**.
- + A new presentation will appear with the **Title Slide**. Here, enter the title of slide.

ADDING TEXT

To add text inside the placeholder, follow these steps:

- Move the mouse pointer within the placeholder and click on 'Click to add Title' placeholder. A text box appears.
- The cursor appears in the centre. Type "SUCCESS TRAIT" as a slide title. Now, click on Click to add Text placeholder.
- Type the text "HARD WORK" inside the text box as a subtitle.

SELECTING A SIDE LAYOUT

Layout refers to the way things are arranged on a slide. A slide layout contains placeholders, which in turn holds text, such as titles, bulleted lists, and slide content, such as tables, charts, pictures, shapes and clip arts. Each time you insert a new slide, you have to choose a layout that matches your requirement. You can also change the layout of the existing slide. The layout can be modified either in Normal view or Slide Sorter view.

To apply a slide layout, follow the given steps:

- Select the slide in the **Slides Pane**.
- In the **Properties** pane, select the desired layout under the **Layouts** section. Or
- Click on the **Slide** menu and select the **Layout** option. A submenu appears, select the required slide layout.
- You can now observe the change in the existing slide.

SAVING A PRESENTATION

It is important to save your work at frequent intervals to avoid data loss. Follow these steps to save the presentation:

- Click on the **Save** icon on the **Standard** toolbar or select the **File menu > Save** option.
- Impress displays the **Save As** dialog box. Enter the name 'Eco Friendly AC' in the **File name** text box and click on the **Save** button.
- The presentation will be saved with the specified name and the extension will be **.odp**.



Fig. 16.4: Adding Text to the Slide

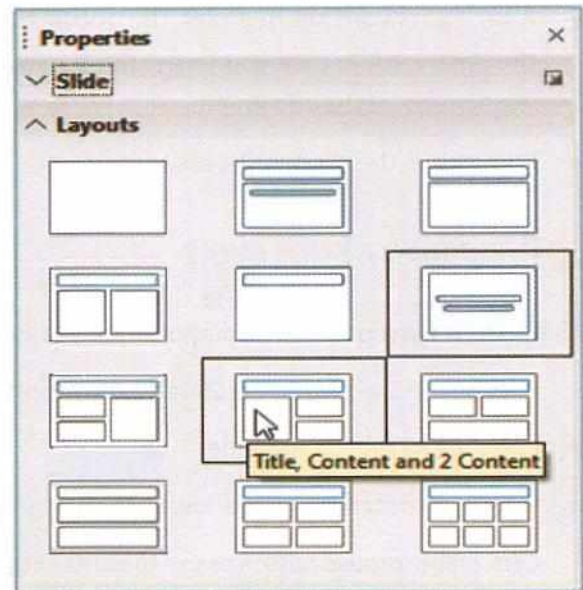


Fig. 16.5: Selecting a Layout in Properties Pane



Fig. 16.6: Saving a Presentation

NOTE

If you want to save a presentation as another file type, click on the **Save as type** drop-down menu in the **Save As** dialog box and select the required file type while saving a file.

SAVING A PRESENTATION USING PASSWORD PROTECTION

Sometimes, you have some crucial data that cannot be shared with everyone. In such a case, you can save the file with a password so that it can only be viewed by selective users who know the password. To use this feature, follow these steps:

- Click on the check box **Save with password** option, and then click on **Save**.
- You will receive a **Set Password** prompt message box.
- Type the desired password in the **Enter password to open** text box, and type the same in the **Confirm password** text box and then click on **OK**.
- The presentation will be saved with password protection.
- After a password has been set, the document will only open with the password. In case you forget the password, there will be no way to recover the document.
- Remember, the password is case sensitive.



Fig. 16.7: Saving with Password Protection

RUNNING A SLIDE SHOW

A slide show is a sequential display of all the slides. To run a slide show, follow these steps:

- Click on the **Start from first Slide** button present on the **Standard** toolbar. Or
- Press the **F5** key to run a slide. Or
- You can also start the slide show by clicking on **Slide Show > Start from first Slide**.
- Click on the mouse button or use the **Enter** key or **Spacebar** key to move to the next slide.
- Use the **Page Up** key or **Page Down** key, or **Arrow** keys to move between the slides.
- To quit the Slide Show view, press the **Esc** key on the keyboard.

SAVING A PRESENTATION IN PDF

In LibreOffice Impress, you can create Portable Document Format (PDF) of the presentation easily. PDF files can be viewed using the Adobe Acrobat Reader which is free software. To create the PDF of your presentation, follow these steps:

- Click on the **File** menu and select the **Export as PDF** option.
- The **PDF Options** dialog box appears. Click on the **Export** button.
- The **Export** dialog box appears. Select the location where you want to keep your PDF file.
- Enter the name in the **File name** box. Click on the **Save** button. Your presentation will be saved in the PDF format.



Fig. 16.8: PDF Options Dialog Box

CLOSING A PRESENTATION

Click on **File > Close** to close an Impress presentation. If the presentation has not been saved since the last change, a message box will be displayed.

You have three options in the Message box. Let us see what happens, if you click on them.

- **Don't Save:** The document is closed, and all modifications since the last save are lost.
- **Cancel:** Nothing happens, and you return to the document.
- **Save:** The document is saved and then closed.

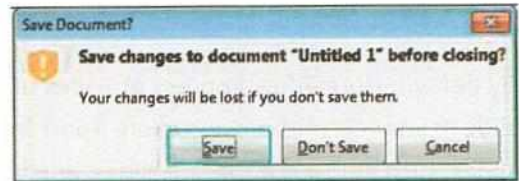


Fig. 16.9: Message Box

OPENING A PRESENTATION

You can open an existing presentation by using any of the following ways:

- Click on **File > Open**. Or
- Click on **Open** button on the **Standard** toolbar. Or
- Press the **Ctrl+O** key combination using the keyboard.
- In each case, you will see the **Open** dialog box.
- Select the presentation you want to open from the desired location.
- Now, click on the **Open** button to open your presentation.



Fig. 16.10: Opening a Presentation

USING HELP

The LibreOffice Impress provides the Help menu. The **Help** menu contains a list of options using which you can get the help on different topics. To take help on a particular topic, click on **Help>LibreOffice Help** or press **F1**. You can also select the **User Guides** option in the Help menu to get the complete guide of LibreOffice Impress.



Answer the Following Questions:

1. How do you launch Impress LibreOffice Impress?
2. What is workspace in LibreOffice Impress?
3. Describe the use of Undo and Redo commands. Which toolbar has these commands?
4. How can you create a new presentation with a blank slide?
5. How do you save a presentation in PDF?



ACTIVITY ZONE

For Better Concept Clarity

- Open a blank presentation, make a Title Slide with the Title being name of the school. Also, make a Title and Content slide with Name of students and Class. Save and close the presentation.
- Protect the created presentation with a password. Open the protected presentation file, make some changes, save it again, close the presentation, and finally exit the LibreOffice Impress.


Working with Slides

By default, LibreOffice Impress provides only one slide. But, to create a presentation, you need to add more than one slide in your current presentation. Apart from adding slides, there are some more operations that you can perform on slides, such as insert duplicate slides, apply a slide layout, and so on. Let us learn some basic operations that help you to make an appealing presentation easily and quickly.

INSERTING A DUPLICATE SLIDE

Sometimes, it is required to use the title or other components of a slide to the next slide. In such situation, you can create a duplicate slide of the selected slide. Duplicate slide means creating a replica of the selected slide.


To insert a duplicate slide, follow these steps:

- Select the slide in the Slides Pane.
- Click on the **Slide** menu and select the **Duplicate Slide** option. Or
- Right-click on the selected slide and select the **Duplicate Slide** option. Or
- Click on the **Duplicate Slide**  icon on the **Presentation** toolbar.

INSERTING NEW SLIDE

You can insert as many new slides in your presentation as you need.

To add new slides into your existing presentation, follow these steps:

- Click on the **Slide** menu and then select the **New Slide** option. Or
- Click on the **New Slide**  icon on the **Presentation** toolbar. Or
- Select a slide and right-click on it. Select the **New Slide** option. Or
- Press the keyboard shortcut **Ctrl+M**.
- LibreOffice Impress will add a new blank slide.

SLIDE LAYOUT

After inserting a slide in the presentation, you need to apply a slide layout. However, you can apply a slide layout while inserting a new slide. To select a slide layout, follow these steps:

- Select a slide in the Slides Pane.
- Click on the **Slide** menu and select the **Layout** option. A submenu appears, select the required slide layout. Or
- In the **Properties** pane, select the desired layout under the **Layouts** section. Or

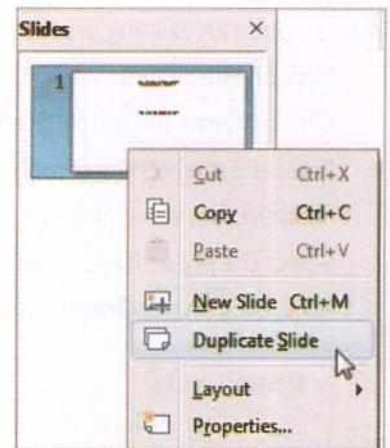


Fig. 17.1: Inserting Duplicate Slide

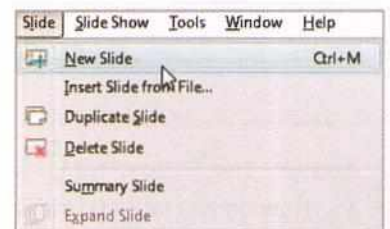


Fig. 17.2: Inserting a New Slide

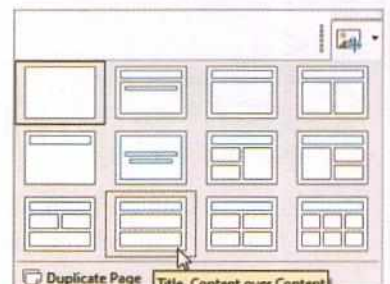



Fig. 17.3: Inserting a New Slide with a Slide Layout

- If you want to insert a new slide with a slide layout, click on the drop-down arrow of **New Slide**  icon and select the required layout.

COPYING AND MOVING SLIDES

Sometimes, it is required to reuse the slides within the same presentation or in another presentation, or move the existing slides to rearrange the presentation. In such situation, you can use the Cut, Copy, and Paste commands. Let us know how you can copy and move your slides.

COPYING SLIDES

To copy slides, follow these steps:

- Select slides in the **Slides Pane**. Or
- Switch into Slide Sorter view by clicking on **View>Slide Sorter**.
- Select slides that are to be copied.
- Now, click on the **Edit** menu and select the **Copy** option. Or
- Right-click on selected slides and select the **Copy** option.
- Paste the slides to the desired location by Clicking on **Edit>Paste**. Or
- Select the **Paste** option from the Context menu.
- The slide gets copied at the new location.

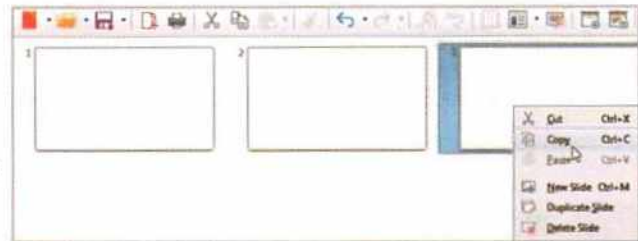


Fig. 17.4: Copying a Selected Slide

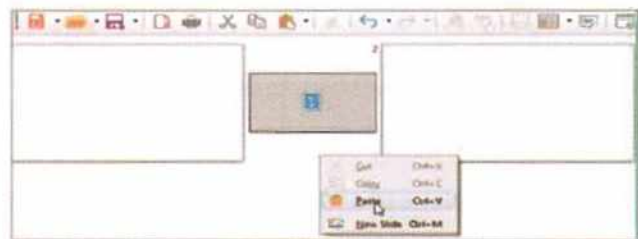


Fig. 17.5: Pasting the Selected Slide

MOVING SLIDES

To move slides, follow these steps:

- Select slides in the **Slides Pane**. Or
- Switch into Slide Sorter view by clicking on **View>Slide Sorter**.
- Select slides that are to be moved.
- Now, click on the **Edit** menu and select the **Cut** option. Or
- Right-click on the selected slides and select the **Cut** option.
- Paste the slides to the desired location by clicking on **Edit>Paste**. Or
- Select the **Cut** option from the Context menu.
- The slide gets moved at the new location.

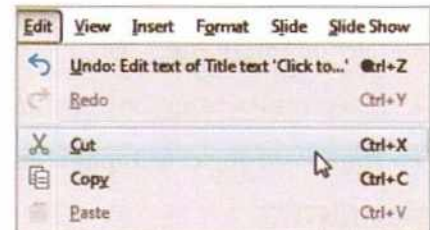


Fig. 17.6: Selecting Cut Option in Edit Menu

DELETING SLIDES

To delete the slides from your presentation, follow these steps:

- Switch into the Slide Sorter view, and select the slides that are to be deleted.
- Click on the **Slide** menu and choose the **Delete Slide** option. Or
- Right-click on the slide and select the **Delete Slide** option in the Context menu. Or
- Press the **Delete** key.

RENAMING SLIDES

It is possible to rename the default names of slides in LibreOffice Impress. To rename a slide, follow these steps:

- ✦ Select the slide in the Slides Pane.
- ✦ Click on the **Slide** menu and select the **Rename Slide** option. Or
- ✦ Right-click on the selected slide and choose the **Rename Slide** option.
- ✦ The **Rename Slide** dialog box appears. Enter the name for slide and click on OK.



Fig. 17.7: Renaming Slide

Let's Know More

The **Copy**, **Cut**, and **Paste** commands are available on the Standard toolbar.

Quick View

- ✦ **Ctrl+C**: To copy the selected text
- ✦ **Ctrl+X**: To cut the selected text
- ✦ **Ctrl+V**: To paste the text

COPYING, MOVING, AND DELETING CONTENT

You can copy or move the text anywhere on a slide, either between the slides or from one presentation to another.

COPYING TEXT

To copy the text, follow these steps:

- ✦ Select the text that is to be copied.
- ✦ Now, click on the **Edit** menu and select the **Copy** option. Or
- ✦ Right-click on the selected text and select the **Copy** option.
- ✦ A copy of the selected text will be placed in the clipboard.
- ✦ Place the cursor at the new position where you want to insert the copied text.
- ✦ Click on **Edit>Paste**. Or
- ✦ Select the **Paste** option from the Context menu.
- ✦ The copied object will appear at the cursor's position.

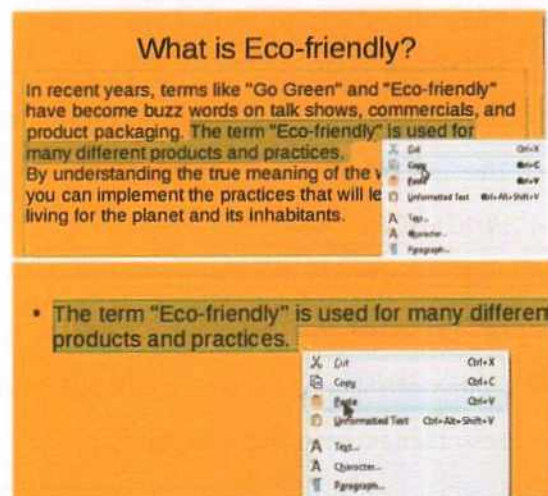


Fig. 17.8: Copying text

MOVING TEXT

To move the text, follow these steps:

- ✦ Select the text that is to be moved.
- ✦ Now, click on the **Edit** menu and select the **Cut** option. Or
- ✦ Right-click on the selected text and select the **Cut** option.
- ✦ The selected text will disappear from the slide and be placed in the clipboard.
- ✦ Place the cursor where you want that text to appear.
- ✦ Click on **Edit>Paste**. Or
- ✦ Select the **Paste** option from the Context menu.
- ✦ The text will appear at the cursor's position.

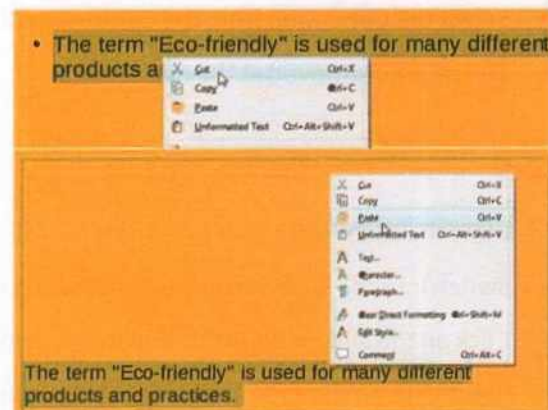


Fig. 17.9: Moving Text

DELETING TEXT

To delete the text from a slide, follow these steps:

- Select the text that you want to delete.
- The border appears around the text placeholder.
- Press the **Delete** key. The selected text will be deleted.

VIEWING A PRESENTATION

LibreOffice Impress has the feature of viewing a presentation in different formats. By default, you work in **Normal** view. The view can be changed anytime by clicking on the **View** menu and choosing the required view. You can also enlarge the view by controlling the size of the window. Let us briefly discuss how to control the size of view and uses of different views of a slide.

CONTROLLING THE SIZE OF THE VIEW

Sometimes, it is required to enlarge a part of a slide or complete slide. In such case, you can use the **Zoom & View Layout** dialog box or **Zoom slider** that helps you zoom in or zoom out the slide view as per your requirement.

To control the size of the view using the **Zoom & View Layout** dialog box, follow these steps:

- Click on the **View** menu and select the **Zoom** option.
- A submenu appears. Select the **Zoom** option again. Or
- Click on the **Zoom Percentage** that is located next to the Zoom slider on the status bar.
- In the **Zoom & View Layout** dialog box opens.
- Enter the value in **Variable** box to increase the size of the view.
- Click on **OK**.

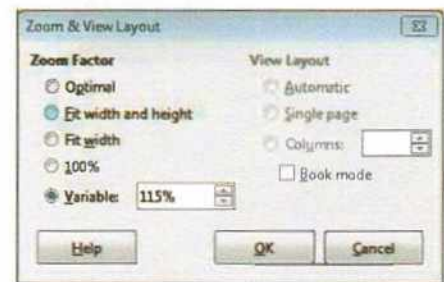


Fig. 17.10: Zoom & View Layout

You can also use the **Zoom slider** to zoom in or zoom out of the slide. The zoom slider has two marked sections. By clicking on the first one, you can position the slide within the workspace. By clicking on the second one, you can increase the size of the view to 100%.

WORKSPACE VIEWS

Normal View: It is the main view for creating and editing slides. You can use this view to add text, graphics, sound, animation, and other effects as well. In this view, the slide is displayed in the middle of the window. On the left side of the window, you see the Slides Pane. Click on the **View** menu and select the **Normal** option to switch to the Normal view.

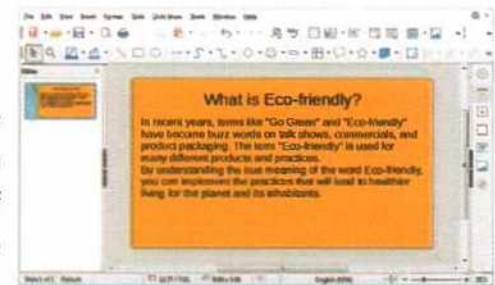


Fig. 17.11: Normal View

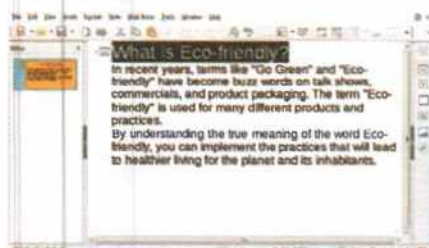


Fig. 17.12: Outline View

Outline View: This view shows all the slides of a presentation in a sequence. This view only displays the text that is contained in the default text boxes (i.e., those text panels which are part of the original slide layout). So, the Outline view will not display any content that is present in the other text boxes or drawing objects, and also the slide names. It shows each slide in the outline format. Click on the **View** menu and select the **Outline** option to switch to the Outline view.

Notes View: In this view, you can add notes to a slide. These notes are not visible when the presentation is shown. They can easily be modified later. The steps to enter notes in a slide are described below:

- ✦ Click on **View > Notes** to switch to the Notes view.
- ✦ Select a slide from the Slides Pane.
- ✦ You will find a text panel below the slide with a prompt box **Click to add Notes**.
- ✦ Click here to enter notes for the slide.

Slide Sorter View: It displays a miniature view of all the slides in a presentation. The slides are visible in the form of thumbnails. It is easy to work on multiple slides using this view. You can change the order of slides, copy, or delete slides, add transitions and animation effects, and set the timings for slide show in this view. Click on the **View** menu and select the **Slide Sorter** option to switch to the Slide Sorter view.

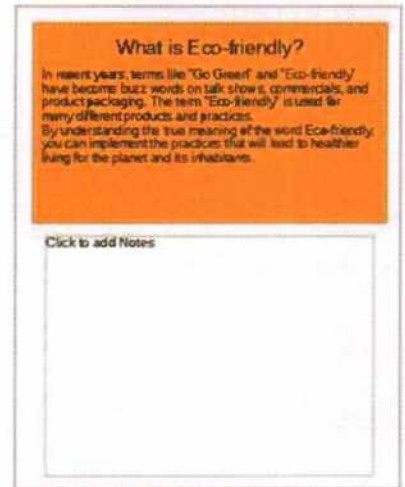


Fig. 17.13: Notes View

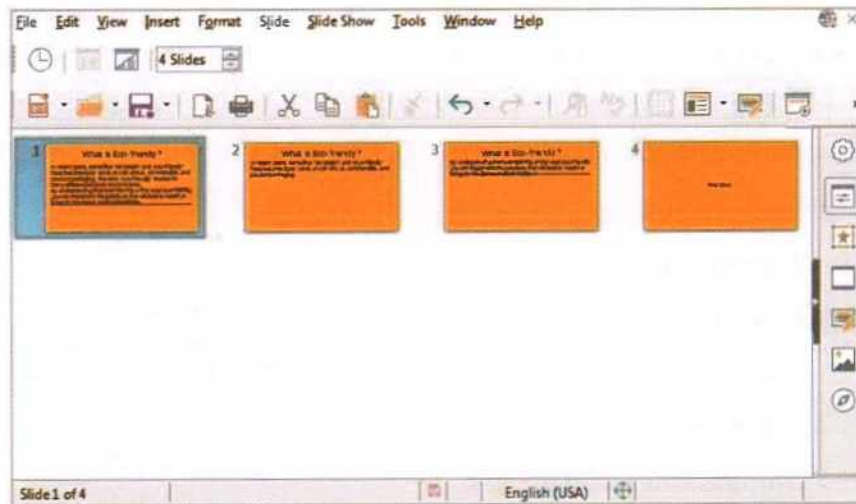


Fig. 17.14: Slide Sorter View

FORMATTING TEXT IN PRESENTATION

Just like LibreOffice Writer, Impress provides various formatting features to enhance the appearance of the text added in your slides. You can format the text in your presentation by using:

- ✦ The Text Formatting toolbar
- ✦ The options available under Format menu
- ✦ The keyboard shortcuts

THE TEXT FORMATTING TOOLBAR




The **Text Formatting** toolbar contains common text formatting options. You can show or hide it by clicking on **View>Toolbar>Text Formatting**.







Fig. 17.15: Text Formatting Toolbar


Let us learn the use of some commonly used text formatting options available on the Text Formatting toolbar.

Changing Font: To change font, select the text and click on the **Font Name**  drop-down arrow. Select the required font.

Font Size: To change font size, select the text and click on the **Font Size**  drop-down arrow. Select the required font size. You can also increase or decrease the font size by clicking on the **Increase Font Size**  or **Decrease Font Size**  button.





Making text Bold, Italic and Underline: You can easily make the text **Bold** , **Italic**  and/or **Underline**  by selecting the text and clicking on the corresponding buttons on the Text Formatting toolbar.

Changing Font Color: To change the font colour, select the text and click on the **Font Color**  button. The color palette appears. Select the required colour.



Highlighting Color: To highlight the selected text, click on the **Highlight Color**  button. The color palette appears. Select the required colour.

Strikethrough: To draw a line through the middle of the selected text, click on the **Strikethrough**  button.

Aligning Text: There are four types of horizontal text alignments:

- ✦ **Left Alignment:** The text is aligned along the left margin while leaving a little space towards the right margin. To left align the selected text, click on the **Align Left**  button.
- ✦ **Centered Alignment:** This is the default alignment of text in a slide. The text is aligned centrally between the left and right margin. It is mostly used for titles. To centre align the selected text, click on the **Align Center**  button.
- ✦ **Right Alignment:** The text is aligned along the right margin while leaving a little space towards the left margin. This alignment is mostly used to put dates on letter heads. To right align the selected text, click on the **Align Right**  button.
- ✦ **Justified Alignment:** The text is aligned evenly between the left and right margin. To justify the selected text, click on the **justified**  button.

Inserting Bullets and Numbering Lists: You can use the **Bullets** and **Numbering** options to create the unordered list and the ordered list in Impress, respectively. To insert bullets or numbering list, follow these steps:

- ✦ Place the pointer from where you want to start the list item.
- ✦ Click on the **Toggle Bulleted List**  or **Toggle Numbered List**  button on the **Text Formatting** toolbar.
- ✦ A bullet or a number appears in the document. Type your text and press the **Enter** key.
- ✦ The bullet or number will automatically appear on the next line. Or
- ✦ Select the items that you want to bullet or number.
- ✦ Click on the **Toggle Bulleted List** or **Toggle Numbered List** button on the Text Formatting toolbar.

Inserting Superscript: To place the selected text slightly above the line of text, click on the **Format> Text>Superscript (Ctrl+Shift+P)**.

Inserting Subscript: To place the selected text slightly below the text baseline, click on the **Format> Text>Subscript (Ctrl+Shift+B)**.



Answer the Following Questions:

1. Write the keyboard shortcut to insert a new slide in a presentation.
2. How can you copy and move contents in slides.
3. Write the keyboard shortcuts to Cut, Copy, and Paste slide contents.
4. What is Zoom slider?
5. List the different presentation views available in Impress.
6. How do you insert bulleted list in your document.



ACTIVITY ZONE

For Better Concept Clarity

Take an existing presentation and display it in all the available views. Take snapshots of each view by using the Ctrl+Print Screen command.



Recap



- ★ Presentation software is application software, which is used to create multimedia presentations in the form of slide shows.
- ★ A presentation is a collection of slides arranged in a sequential manner to convey, persuade, motivate, and entertain or to provide information.
- ★ A presentation can be made more interesting and effective by including lists items, background, graphical elements, audio and videos, transitions and animation, and so on.
- ★ LibreOffice Impress popular presentation software used to create dynamic slide presentations that can include text, pictures, charts, diagrams, audio, videos, narration, transitions, and animation.
- ★ The Standard toolbar gives you the access to use the most commonly used commands, including copy and paste, formatting text, and adding new slide.
- ★ A workspace is the blank area in the middle of the window where a slide is displayed.
- ★ When you open Impress, you get a new presentation that contains only one empty slide.
- ★ Templates are inbuilt design used for creating a presentation. They include predefined elements like layouts, backgrounds, and color schemes, text styles, etc.
- ★ Duplicate slide means creating a replica of the selected slide.
- ★ The size of view can be controlled by using the Zoom slider or Zoom & View Layout dialog box.

- ✦ The Normal view is the default view of the presentation. It is the main view for creating and editing slides.
- ✦ The Outline view only displays the text which is contained in the default text boxes, i.e., those text panels which are part of the original slide layout.
- ✦ In Notes View, you can add notes to a slide. These notes are not visible when the presentation is shown.
- ✦ The Slide Sorter view displays a miniature view of all the slides in a presentation.
- ✦ You can change the order of slides, copy or delete slides, add transitions and animation effects, and set the timings for slide show in the Slide Sorter view.
- ✦ The Text Formatting toolbar contains common text formatting options.



BRAIN DEVELOPER

SECTION 1: OBJECTIVE TYPE QUESTIONS-(SOLVED)

A. Multiple Choice Questions:

1. Which area is used to edit and design slides?

a. Slides Pane	b. Status Bar	c. Notes Pane	d. Title Bar
----------------	---------------	---------------	--------------
2. A presentation is a collection of:

a. Notes	b. Slides	c. Panes	d. Placeholders
----------	-----------	----------	-----------------
3. Which of the following is not a presentation software?

a. LibreOffice Suite	b. LibreOffice Impress	c. OpenOffice Impress	d. None of these
----------------------	------------------------	-----------------------	------------------
4. It is a sequential display of slide.

a. Presentation	b. Slider Sorter	c. Slide Show	d. None of these
-----------------	------------------	---------------	------------------
5. Which key combination is used to create a new presentation?

a. Ctrl+S	b. Ctrl+O	c. Ctrl+N	d. Ctrl+C
-----------	-----------	-----------	-----------
6. What do you call the inbuilt designs used for creating a presentation?

a. Slide Design	b. Templates	c. Sample Design	d. Slide Layout
-----------------	--------------	------------------	-----------------
7. Which key combination is used to open an existing presentation?

a. Ctrl+S	b. Ctrl+O	c. Ctrl+N	d. Ctrl+C
-----------	-----------	-----------	-----------
8. Which view is used to write and design a presentation?

a. Normal	b. Notes	c. Slide Sorter	d. Slide Show
-----------	----------	-----------------	---------------
9. Which key is used to quit a Slide Show?

a. Esc	b. Enter	c. Shift	d. Tab
--------	----------	----------	--------
10. From which menu can you get to the Notes option?

a. Design	b. Home	c. View	d. Insert
-----------	---------	---------	-----------

11. A handout is a slide in the form of:

- a. A piece of paper b. Slide on screen c. A mobile app d. None of these

12. Which of the following contains Zoom slider?

- a. Slides Pane b. Status Bar c. Title Bar d. Slides Tab

B. Give One Word Answer:

1. What type of application software creates multimedia presentations in the form of slide shows?

.....

2. To which suite does the 'Impress' software belong?

.....

3. When a presentation window opens, what name is displayed on the Title bar?

.....

4. Name the component of the Impress window which displays the name of the current presentation.

.....

5. In which view do you add notes for slides?

.....

6. Write the key combination which is used to save a presentation.

.....

7. What is the default view of Impress window?

.....

8. Which view displays a miniature view of all the slides in a presentation?

.....

ANSWERS

A. Multiple Choice Questions

1. (a) 2. (b) 3. (a) 4. (c) 5. (c) 6. (b) 7. (b) 8. (a) 9. (a) 10. (c) 11. (a) 12. (b)

B. Give One Word Answer

1. Presentation software 2. LibreOffice 3. Presentation1 4. Title bar 5. Notes view 6. Ctrl+S
7. Normal view 8. Slide Sorter view

SECTION 2: THEORY QUESTIONS-(SOLVED)

1. What is a presentation software? Where do you use this type of software?

Ans: A presentation software is an application software which is used to create multimedia presentations in the form of slide shows. The maximum usage of this software can be seen in the field of entertainment, education, corporate training sessions, seminars, and conferences.

2. What is the difference between Title bar and Status bar?

Ans: **Title Bar:** This bar is located at the top of the Impress window. It displays the name of the current presentation (Untitled 1, by default).

Status Bar: It is positioned at the bottom of the Impress window. It displays information like slide number, zoom level, and other important information about the current slide.

3. What is a Layout?

Ans: A layout defines the basic structure of a slide and arranges your slide content. It provides you different ways to position your text, images, and other graphic options.

4. Write the different ways of creating a new presentation in Impress.

Ans: We can create a new presentation by following any of the three given options:

1. Click on the **New** icon present on the **Standard toolbar**.
2. Press **Ctrl+N**.
3. Click on **File > New**.

5. Explain the three different options of alert message which you receive while closing a presentation that has not been saved.

Ans: While closing a presentation that has not been saved since the last change, you will get the following three options in the message box:

Save: The presentation is saved and then closed.

Don't Save: The presentation is closed and all recent modifications are lost.

Cancel: Nothing happens and you return to the presentation.

6. What is the default view of the Impress window? Explain it.

Ans: Normal view is the default view of the Impress window. It is the main editing view, which is used to write and design a presentation. In the Normal view, you can add text, graphics, sound, animation, and other effects as well. In this view, you can also have a large view of an individual slide, notes pane at the bottom, an outline of the slide text (Outline tab), and slides displayed as thumbnails (Slides tab), all at the same time.

7. Describe the steps used to enter notes in a slide.

Ans: We can add notes to a particular slide in the **Notes view**. Notes are not visible when the presentation is shown. The steps to enter notes in a slide are as follows:

- ✦ Select the **Notes** option in the **View** menu.
- ✦ Select a slide on which you wish to add a note.
- ✦ The Notes pane will appear below the slide with a prompt box, '**Click to add Text**'. Click inside the Notes pane and to enter notes for the slide.

8. What is Slide Show view? How can you access it?

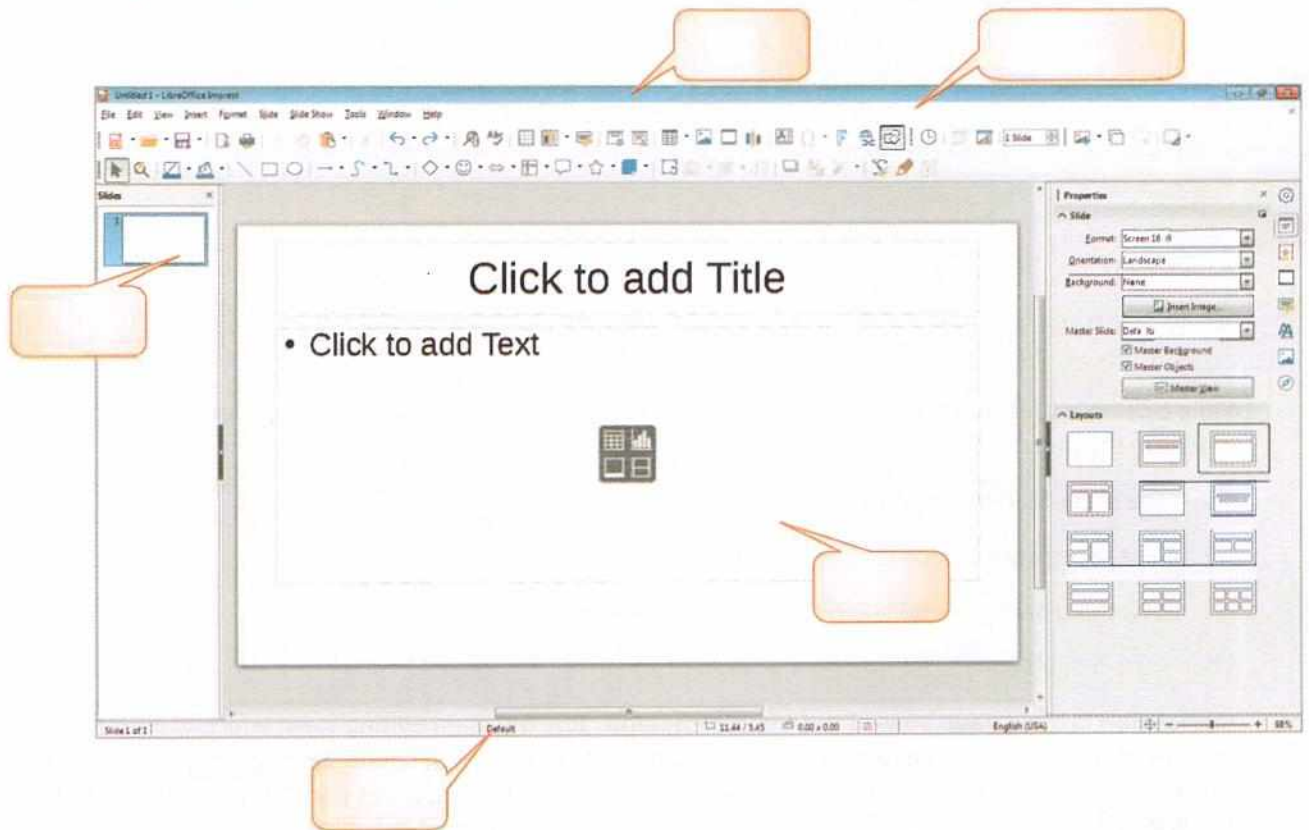
Ans: The Slide Show view shows all the slides of a presentation starting either from the first slide or the current slide one after another. In this view, one slide occupies the entire screen at a time. In this view, we can see how our graphics, timing, animated elements, movies, and transition effects will look in the actual show.

To access the Slide Show, follow any one of the following options:

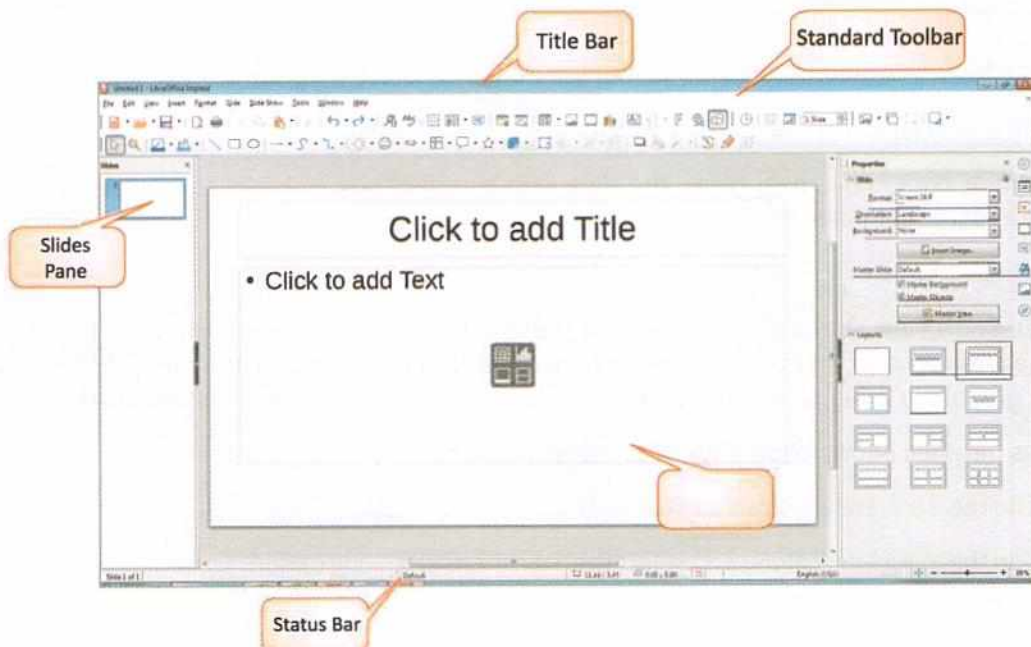
- ✦ Click on the **Slide Show** button present on the **Status bar**. Or
- ✦ Click on the **Slide Show** menu and select the **Start from first Slide** option. Or
- ✦ Press **F5** to start the Slide Show.

SECTION 3: APPLICATION BASED QUESTIONS-(SOLVED)

1. Mrs. Ahuja, a computer teacher has given you an image of the Impress window. Complete the picture by labeling the components of the Impress window.



Ans: After filling the names of the marked components, the given image will look like this:



2. Raman's computer teacher Mr. Tushar has asked him to create a new presentation. He has also asked Raman not to use the keyboard. List the ways by which Raman can create a presentation, without using the keyboard.

Ans: We have two alternate ways to create a new presentation without using the keyboard.

- + Click on the **New** icon present on the **Quick Access Toolbar**.
- + Click on the **File** menu > **New** > **Presentation**.

3. Aditi wants to create a confidential presentation for her office project. She does not want anybody else to view it. What feature should she add in her presentation to enable the prevention against an unauthorised access?

Ans: Aditi needs to protect her presentation by using the Password protection. In this case, she can use the option of protecting the file using a password. To protect an entire presentation from being viewed by others, she has to follow the given steps:

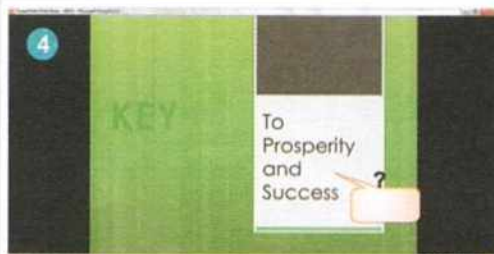
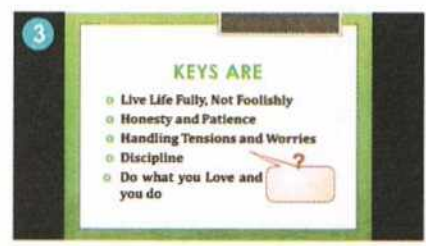
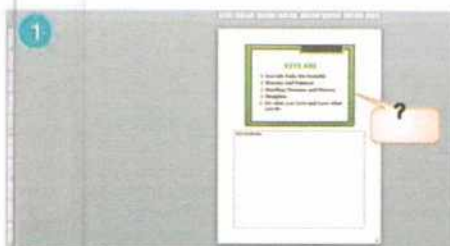
- + Select the **Save** option from the **File** menu.
- + The **Save As** dialog box appears.
- + Click on the check box **Save with password** option, and then click on **Save**.
- + The **Set Password** prompt message box will appear.
- + Type the desired password in the **Enter password to open** text box and type the same in the **Confirm password** text box and then click on **OK**.
- + The presentation will be saved with password protection.

4. Anita was given a presentation which had a slide whose text was in Times New Roman font, and font size 12. Her teacher asked her to change it to Calibri font with font size 14. How can she accomplish this task?

Ans: Anita should first use the **Ctrl+ A** to select the entire text in the slide. Click on the **Fonts** tab, and select the required font (Calibri) under **Font**, and required font size (14) under **Size** on the Text Formatting toolbar. Click on **OK** to apply the changes

SECTION 4: APPLICATION BASED QUESTION-(UNSOLVED)

Rohit has got an assignment on different views of slide. He has created sample images to illustrate the topic but forgot to name them. Complete his assignment by naming the different views:



SECTION 5: THEORY QUESTIONS-(UNSOLVED)

1. Define presentation software.
2. What do you mean by the term 'Slide'?
3. What is the difference between presentation and slide?
4. What is Slide Layout? Name any two different Slide Layout options.
5. Describe the steps of saving a presentation.
6. Write the steps for adding a password to a presentation.
7. Explain Standard toolbar.
8. Explain the different ways of viewing a Slide Show.

SECTION 6: LONG ANSWER TYPE QUESTIONS-(UNSOLVED)

1. What do you know about Impress software? Explain its features.
2. List elements of a presentation.
3. Write any two characteristics of a good presentation.
4. What is the use of presentation software? What are the most popular presentation applications?
5. What are the different formatting options present in Impress?
6. How do you insert a duplicate slide in your presentation?
7. What is the use of Zoom & View Layout dialog box?
8. Discuss the different views of a slide.



Working with Tables

LibreOffice Impress is a powerful tool, which helps you to communicate your views and ideas effectively using diagrams, photos, clip arts, sounds, colours, designs, and animated special effects. Impress provides additional features to organise the information in a tabular format. A table is a grid of cells arranged in rows and columns. In this section, you will learn how to insert a table, apply a table style, and format the table using various commands.

INSERTING A TABLE

To insert a table in a slide, follow any of these methods:

METHOD 1

- ✦ Choose **Insert > Table**.
- ✦ The **Insert Table** dialog box appears.
- ✦ Define the number of columns and rows.

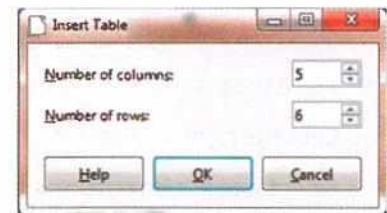


Fig. 18.1: Insert Table Dialog Box

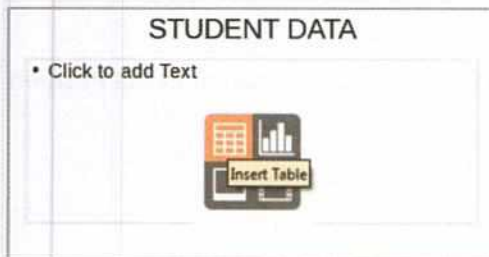


Fig. 18.2: Insert Table Through Slide Layout

- ✦ Click on **OK**.
 - ✦ A table will be displayed according to the defined columns and rows.
- #### METHOD 2
- ✦ Open a new file by using the presentation software and change the layout of the slide from the context menu or choose **Slides > Layout**.
 - ✦ Select the **Title and Content** option from the displayed list.
 - ✦ Now, click on the **Insert Table** icon in the slide.
 - ✦ The **Insert Table** dialog box will open.
 - ✦ Define the number of columns and rows.
 - ✦ Click on **OK**.

METHOD 2

- ✦ Open a new file by using the presentation software and change the layout of the slide from the context menu or choose **Slides > Layout**.

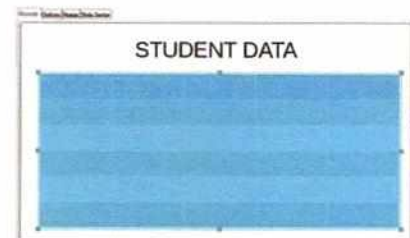


Fig. 18.3: Table Inserted

ENTERING DATA IN A TABLE



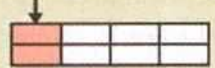
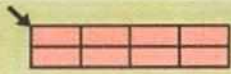
After inserting table in a slide, follow the steps given below to enter column headings or row entries:

- ✦ Place the mouse pointer in the first cell of the table and type heading. Press the **Tab** key to move the insertion point to the next cell.
- ✦ Type heading for the next cell. Similarly, you can insert data in the table using the **Tab** key or **Arrow** keys or by clicking in the required cell. After typing data in the table, click outside the table.
- ✦ To edit data in a table, click on the cell to be modified and make changes in it.

STUDENT DATA				
Roll No.	Name	English	Maths	Computer
101	Hemant	90	80	90
102	Kunal	85	80	85
103	Kabir	98	95	92
104	Arkita	80	90	85
105	Mansi	90	90	90

Fig. 18.4: Entering Data in a Table

✦ To select text, follow any of these methods:

To Select	Action	Do Like This
A cell	Triple-click inside cell.	
A row	Move the mouse to the left of the row margin and click the left mouse button.	
A column	Place the mouse pointer over the top of the column and click the left mouse button.	
An entire table	Place the mouse pointer over the top left corner of a table and click.	

INSERTING ROWS AND COLUMNS IN A TABLE

To insert new rows in a table, follow these steps:

- ✦ Place the insertion point in a cell.
- ✦ Click the right mouse button.
- ✦ Select **Insert > Row** from the Context menu.
- ✦ The **Insert Rows** dialog box appears.
- ✦ Specify the number of rows in the **Number** field.
- ✦ Define the placement of rows that are to be inserted using **Before** or **After** radio buttons present in the **Position** section.
- ✦ Click on **OK**.

Likewise, you can insert column(s) in a table by selecting **Insert > Insert Column** and define its position.

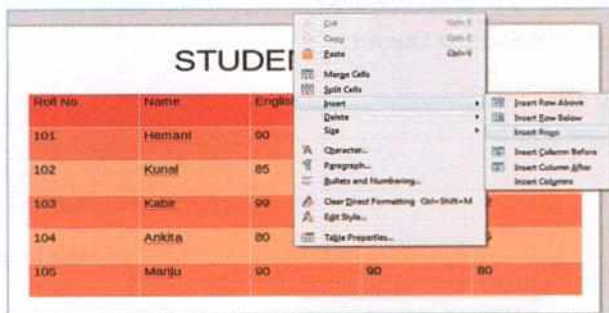


Fig. 18.5: Inserting Rows through Right-Click

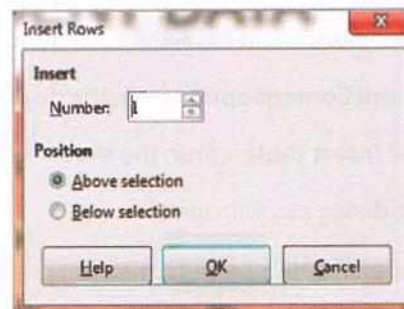


Fig. 18.6: Insert Rows Dialog Box

FORMATTING TABLE USING TABLE TOOLBAR

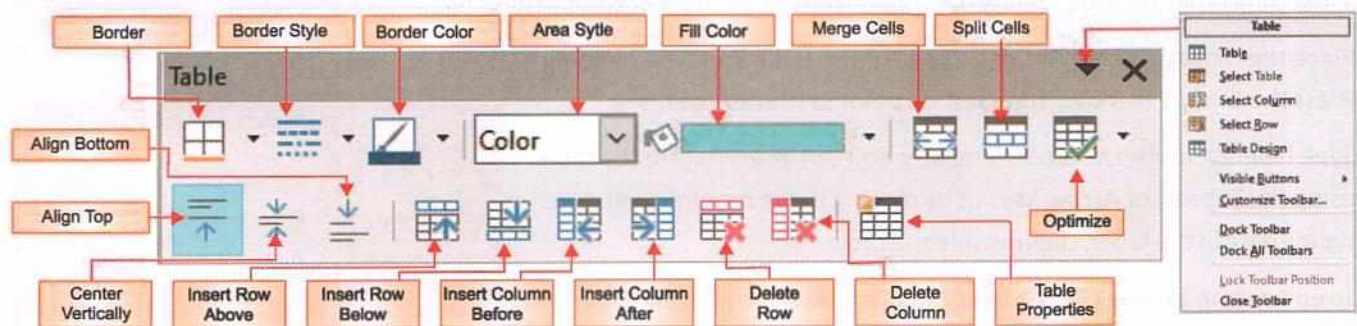





Fig. 18.7: Table Toolbar


When a table is selected by clicking on it, the **Table** toolbar appears on the screen. It contains the following tools that are used to format the table.


BORDERS : It opens a drop-down menu displaying various types of borders that can be applied on a table or selected cell(s).


BORDER STYLE : It is used to change the border style of the selected cell(s) or table.


BORDER COLOR : It opens a drop-down menu to show a palette of colours to choose from. The colour chosen from the palette becomes the border colour of the selected cell(s) or table.

AREA STYLE/FILLING : It allows you to fill colour, pattern or texture in the selected cell(s). Click on the spin arrows of **Area Style/Filling** button. It will display the list of options offering colour, pattern, gradient, etc. Click on the adjacent combo box to select the respective colour, pattern or gradient from the list. The selected style will be displayed in the cells.

MERGE CELLS : It is used to combine two or more cells.

SPLIT CELLS : Splitting cells refer to dividing the selected cell further into separate cells. Clicking on this icon opens the **Split Cells** dialog box. Specify the number of cells that you want the selected cell to split into. Now, select either **Horizontally** or **Vertically** option under the Direction section. Click on **OK**. The selected cell will be divided as per the specifications.

OPTIMIZE : It is used to evenly distribute the horizontal and vertical space in the selected cells.

ALIGNMENTS : Table toolbar provides three types of vertical alignments — Top, Center, and Bottom. The contents of the selected cells are aligned according to the selected alignment.

INSERT ROW ABOVE, INSERT ROW BELOW  : It inserts a new blank row above/below the selected cell.

INSERT COLUMN BEFORE, INSERT COLUMN AFTER  : It inserts a new blank column before/after the selected cell.

DELETE ROW: It deletes the selected row.


DELETE COLUMN: It deletes the selected column.

TABLE PROPERTIES: This icon opens the **Format Cells** dialog box. Using this dialog box, you can format **Font**, **Font Effects**, **Borders**, and **Background** of the table.

FORMATTING TABLE USING SIDEBAR PROPERTIES

When you insert a table, Impress automatically shows the table **Properties** on the Sidebar. The Table properties offer various options for formatting a table. Let's discuss some of these properties:

Quick View

Click on the **Table** tool  on the Standard toolbar, it opens the **Insert Table** dialog box.



Let's Know More

To adjust the column width and row height, bring the mouse pointer on the border line of column or row. Now, drag the pointer in or out to adjust the column width or row height, respectively.



Quick View

Right-click on a row/column. Select the **Row/Column** option and choose the **Delete** option. The selected row/column disappears from the table.

CHARACTER

The character properties are used to change the formatting of the text written inside the table. To apply the text formatting, select the cells and then click on the respective tool. The following character formatting tools are available:

- ✦ Font Name and Font Size
- ✦ Bold, Italic, Underline, Strikethrough and Toggle Shadow
- ✦ Increase Font Size and Decrease Font Size
- ✦ Font Color and Highlight Color
- ✦ Set Character Spacing
- ✦ Superscript and Subscript

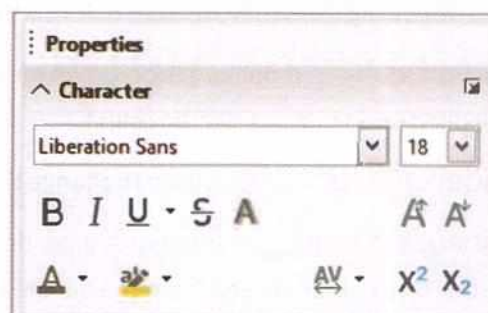


Fig. 18.8: Table Character Properties

PARAGRAPH

The paragraph properties are used to change the alignment settings of the text written inside the table. To apply the paragraph formatting, select the cells and then click on the respective tool. The following paragraph formatting tools are available:

For horizontal text alignment: Align Left, Align Center, Align Right and Justified.

For vertical alignment: Align Top, Center Vertically and Align Bottom.

Toggle List: Bulleted and Numbered

Spacing : Increase Spacing and Decrease Spacing

Indent : Increase, Decrease and Hanging

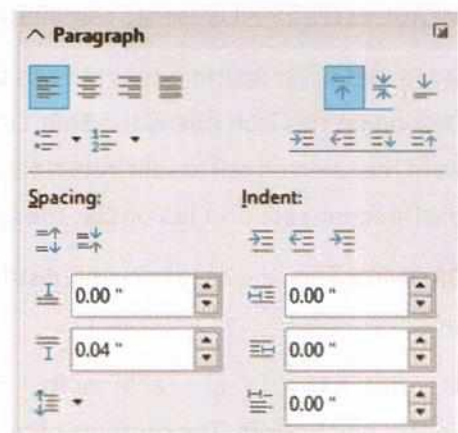


Fig. 18.9: Table Paragraph Properties

TABLE DESIGN

To apply a table design:

- ✦ Select the table.
- ✦ Click on the desired design from the **Table Design** section in the Sidebar.
- ✦ Observe the change



ACTIVITY ZONE

For Better Concept Clarity

Your school has raised some funds from each class, i.e., 1 to 12, for the orphanage of your city/town. The computer teacher has given you the responsibility to keep the record of this fund. Create a table in Impress, and define the collection from each class. Save the table with the name My Collection.

A. Fill in the Blanks:

1. A table is a of cells.
2. One can easily format a table using toolbar.
3. The cells tool is used to combine two or more cells.
4. The command evenly distributes the horizontal and vertical space in the selected cells.

B. Answer the Following Questions.

1. How to insert a table using Insert menu in an Impress slide?
2. What are the various options present in the Paragraph section of the Table properties sidebar?



ACTIVITY ZONE

For Better Concept Clarity

Your school has raised some funds from each class, i.e., 1 to 12, for the orphanage of your city/town. The computer teacher has given you the responsibility to keep the record of this fund. Create a table in Impress, and define the collection from each class. Save the table with the name My Collection.



Inserting and Formatting Image in a Presentation

Presentations can be enhanced by adding images and pictures in them. Images can be added substantially in various ways:

INSERTING IMAGE FROM FILE

When a desired image is already available on the computer, it can easily be inserted in a slide. Impress can import various types of file formats. The most common are GIF, JPEG, JPG, PNG, and BMP. To insert an image from a file, follow the given steps:

- Click on the **Insert** menu. Select the **Image** option. Or
- Apply a layout that contains a picture placeholder. Click on the **Insert Image** icon.
- You will now see the **Insert Image** dialog box.
- Select the folder from where you want to insert the picture.
- Choose the desired picture file and click on **Open**.
- If the **Insert as Link** check box is checked, then Impress will create a link to the file rather than inserting the original image. Linking can reduce the size of a document. The linked image and presentation remain two distinct entities, and a copy of that image is not inserted within the slide.

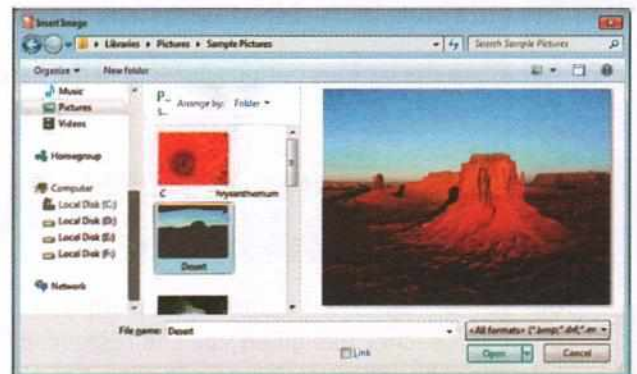


Fig. 19.1: Insert Image Dialog Box

INSERTING IMAGES FROM LIBREOFFICE GALLERY

The **LibreOffice Gallery** contains a collection of images that you can use in a presentation. The Gallery is available in all the components of LibreOffice.

Follow these steps to insert a graphic from the Gallery:

- Click on the **Gallery** icon present on Sidebar. Or
- Choose **View > Gallery** option.
- Select the **Theme** that contains the image to be inserted.
- Click on the image, then drag and drop the image into the slide.
- You can also right-click on the object and select the **Insert** option.

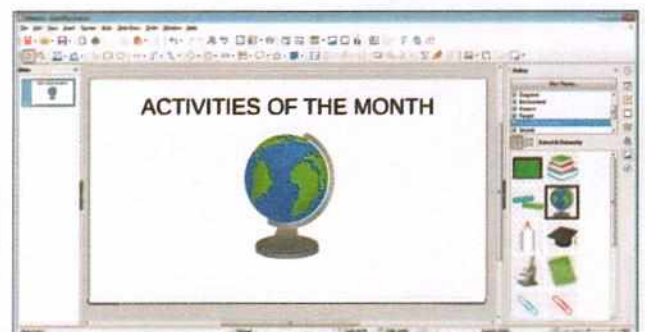


Fig. 19.2: Inserting image from LibreOffice Gallery

FORMATTING IMAGES

ROTATING A PICTURE

- Click on the picture that you want to rotate.
- Select the **Rotate** icon present on the **Picture** toolbar.
- Click on the picture again, the resizing handles change into rotation handles with a default pivot point (centre point).


- ✦ Move the pointer to any of the corner handles. The pointer changes to a rotate symbol .
- ✦ Click and drag the handle to rotate the object as required. Or
- ✦ You can right-click on the picture, to get the **Rotate or Flip** option.
- ✦ It displays further three options to choose from:
 - ✦ Choose **Rotate** to drag and rotate the picture using rotate pointer.
 - ✦ Choose **Vertically** to flip the picture upside down.
 - ✦ Choose **Horizontally** to flip the picture left to right.



Fig. 19.3: Rotating a Picture

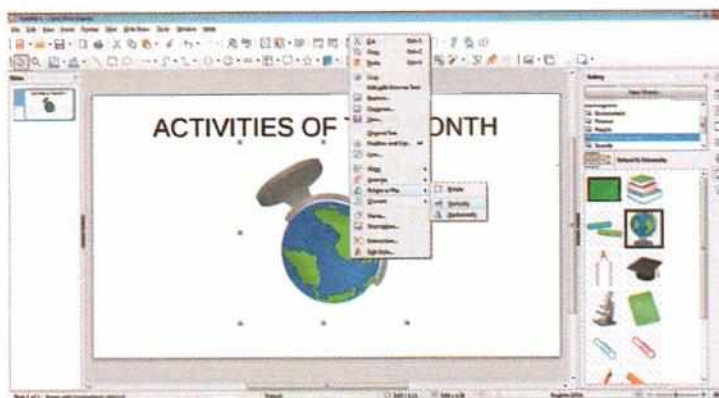


Fig. 19.4: Flipping a Picture

RESIZING A PICTURE

Resizing stretches or shrinks the dimension of an object.

- ✦ To increase or decrease the size of an object, select the object.
- ✦ Bring the pointer to any of the eight resizing handles on the selected object, and drag the handle inward to decrease and outward to increase the size of the object.
- ✦ If you want to resize the object uniformly, then hold down the **Ctrl/Shift** key while dragging the resizing handle.

DELETING AN IMAGE

To delete an image from the slide, follow these steps:

- ✦ Select the image that you want to delete.
- ✦ The border appears around the image placeholder.
- ✦ Press the **Delete** key. The selected image will be deleted.

INSERTING IMAGE FROM THE INTERNET

To insert an image of Swami Vivekananda, from the internet, follow the given steps.

- ✦ Open any web browser to search for an image of 'Swami Vivekananda'.
- ✦ Various images will appear.
- ✦ Copy any one of the images of Swami Vivekananda by right-clicking on the image and selecting the **Copy image** option from the shortcut menu that appears.
- ✦ Go to the slide where you want to paste the image. Right-click on the slide and select the **Paste** option from the shortcut menu.
- ✦ The picture will be pasted on the slide.
- ✦ Resize the picture as per your requirement by dragging the resizing handles of the picture, and also position the picture properly on the slide.

FORMATTING USING THE IMAGE TOOLBAR

The images inserted on a slide can be formatted using the **Image** toolbar. The **Image** toolbar can be inserted from **View > Toolbars > Image**.

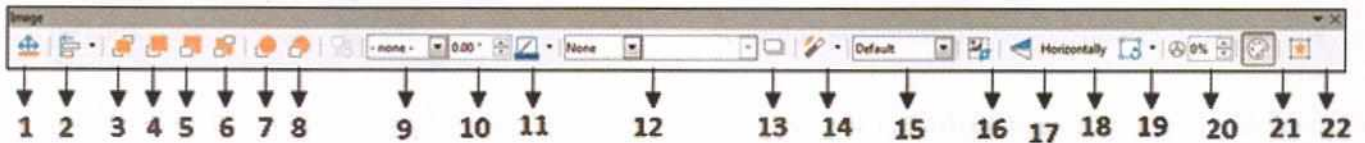


Fig. 19.5: Image Toolbar

1. Position and Size (F4)	12. Area Style / Filling
2. Align	13. Shadow
3. Bring to Front (Ctrl+Shift++)	14. Filter
4. Bring Forward (Ctrl++)	15. Image Mode
5. Send Backward (Ctrl+-)	16. Crop Image
6. Send to Back (Ctrl+Shift+-)	17. (Flip) Vertically
7. In Front of the Object	18. (Flip) Horizontally
8. Behind Object	19. Transformations
9. Line Style	20. Transparency
10. Line Width	21. Color
11. Line Color	22. Interaction

DRAWING GRAPHIC OBJECTS

INSERTING SHAPES IN A SLIDE

Impress provides different shapes on the Drawing toolbar that you can insert in your slide as per your requirement. Shapes can be resized, rotated, flipped, and coloured.

- On the **Drawing** Toolbar, click on any of the **Symbol** drop-down arrow and select a symbol from the list.
- The pointer changes to '+' sign. Place the pointer on the slide and drag it to adjust the size.

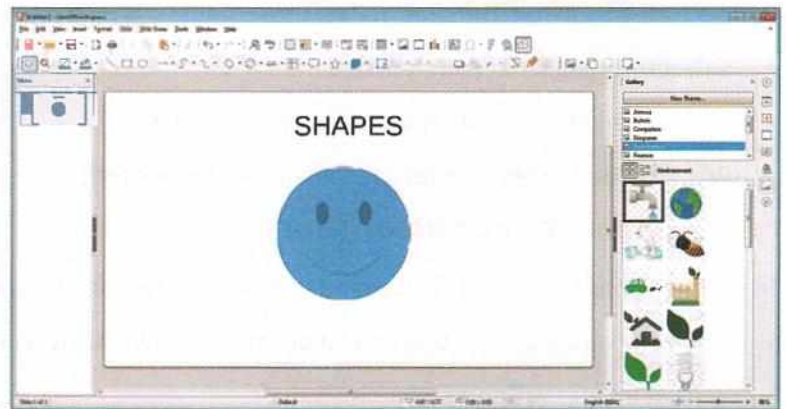


Fig. 19.6: Inserting Shapes

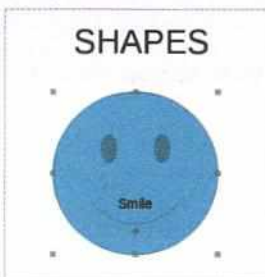


Fig. 19.7 Typing Text inside Shapes

- Now, add text inside the shape by double-clicking on the shape.
- The insertion point appears in the shape object. Now, type the text.
- After typing the text, click on the blank area of the slide.
- The text gets added into the shape.

GROUPING AND UNGROUPING SHAPES OR OTHER OBJECTS

It is often convenient to group shapes together so that they are treated as a single shape by Impress. A group of shapes can be formatted in a way similar to a single shape. They can be moved, rotated, and deleted together. Follow these steps to group and ungroup shapes:

- ✦ Insert two or more shapes in the slide.
- ✦ Click on the **Selection** tool present on the **Drawing** toolbar and drag around the shapes to be grouped. Or
Click on each shape to be added to the group while pressing the **Shift** key.

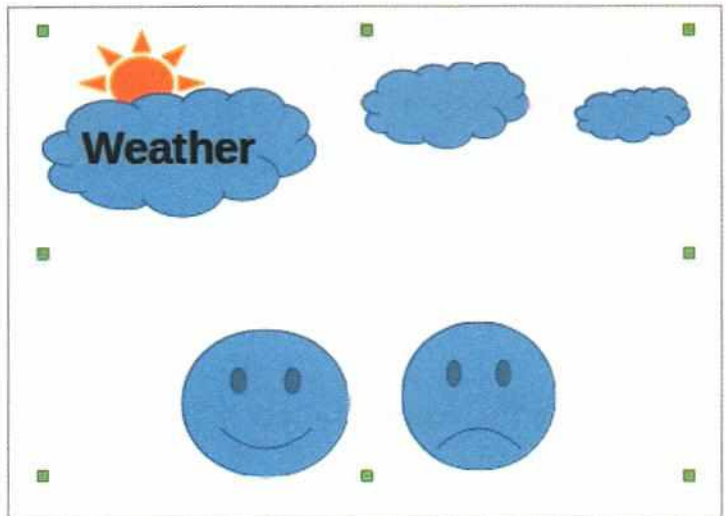


Fig. 19.8: Grouping the Objects

- ✦ After selecting all the shapes, you will find green resizing handles surrounding the shapes.
- ✦ Click on **Format > Group > Group** or right-click on the selected shapes and select the **Group** option from the context menu, or simply press **Shift+Ctrl+G**.
- ✦ To **Ungroup** the grouped objects, select the group by clicking on it. Right-click on the selection and choose **Ungroup** from the context menu.

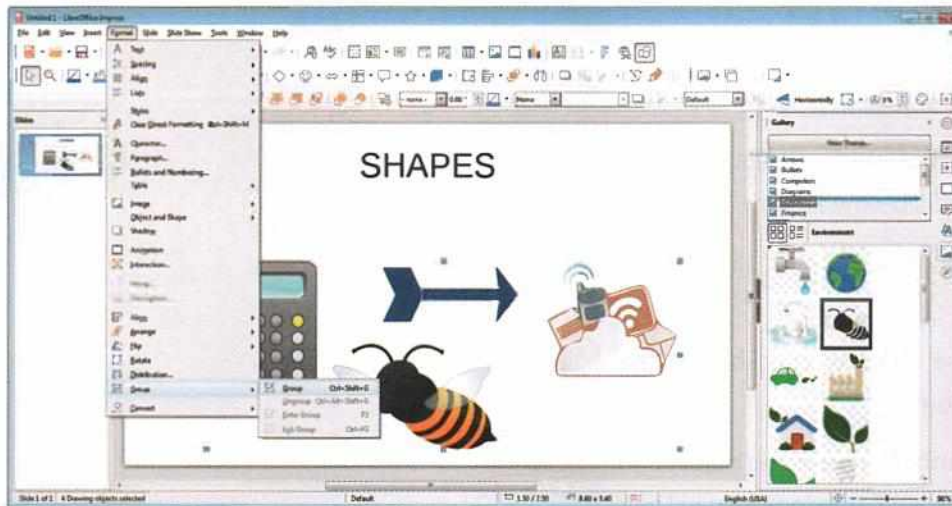


Fig. 19.9: Selecting the Group Option

RESIZING A SHAPE

To increase or decrease the size of a shape:

- ✦ Select the shape.
- ✦ Bring the pointer to any of the eight resizing handles on the selected shape, and drag the handle inward to decrease and outward to increase the size of a shape.
- ✦ If you want to resize the shape uniformly, then hold down the **Ctrl/Shift** key while dragging the resizing handle.

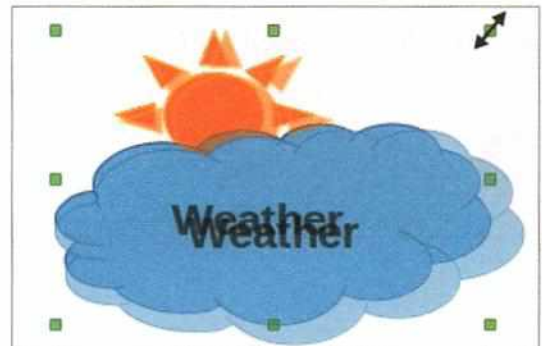


Fig. 19.10: Resizing a Shape

USING SHADOW EFFECTS

In addition to adding textures and colours, you can apply shadow effects to any shape. It will make the shapes impressive in appearance.

- ✦ Select any shape object.
- ✦ Click on the **Format** menu. Select the **Area** option from the drop-down menu.
- ✦ The **Area** dialog box appears. Select the **Shadow** tab.
- ✦ Click on the **Use shadow** checkbox in the **Properties** section.
- ✦ Define the **Distance** between the object and its shadow, **Color**, and **Transparency** in their corresponding text boxes. Click on **OK**.
- ✦ The object will appear with a shadow.

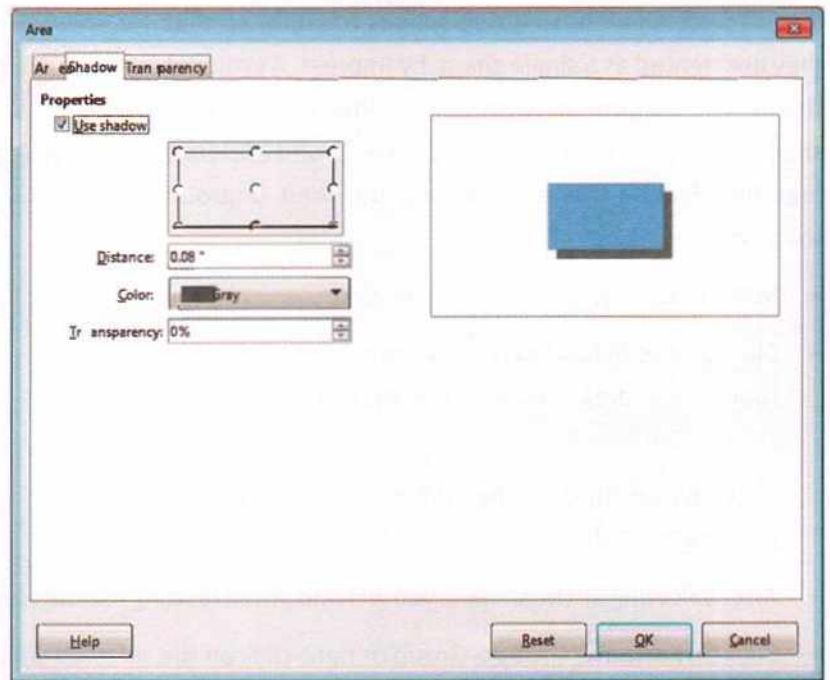


Fig. 19.11: Area Dialog Box

USING SHADOW EFFECTS

In addition to adding textures and colours, you can apply shadow effects to any shape. It will make the shapes impressive in appearance.

- ✦ Select any shape object.
- ✦ Click on the **Format** menu. Select the **Area** option from the drop-down menu.
- ✦ The **Area** dialog box appears. Select the **Shadow** tab.
- ✦ Click on the **Use shadow** checkbox in the **Properties** section.
- ✦ Define the **Distance** between the object and its shadow, **Color**, and **Transparency** in their corresponding text boxes. Click on **OK**.
- ✦ The object will appear with a shadow.

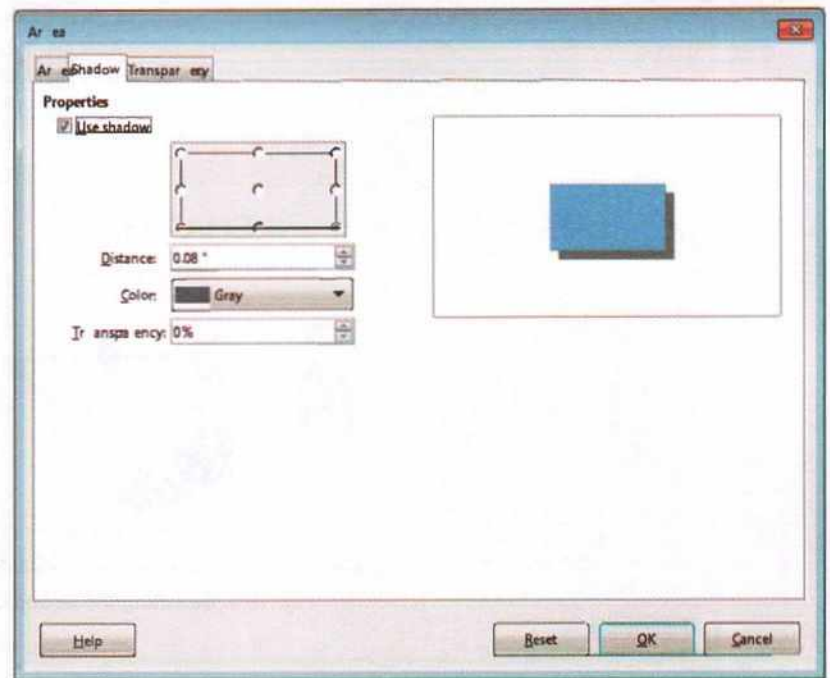



Fig. 19.12: Area Dialog Box



To apply **3D** effects to an object in LibreOffice Impress, use the **Toggle Extrusion On/Off** button  in the **Drawing** toolbar.

Answer the Following Questions:

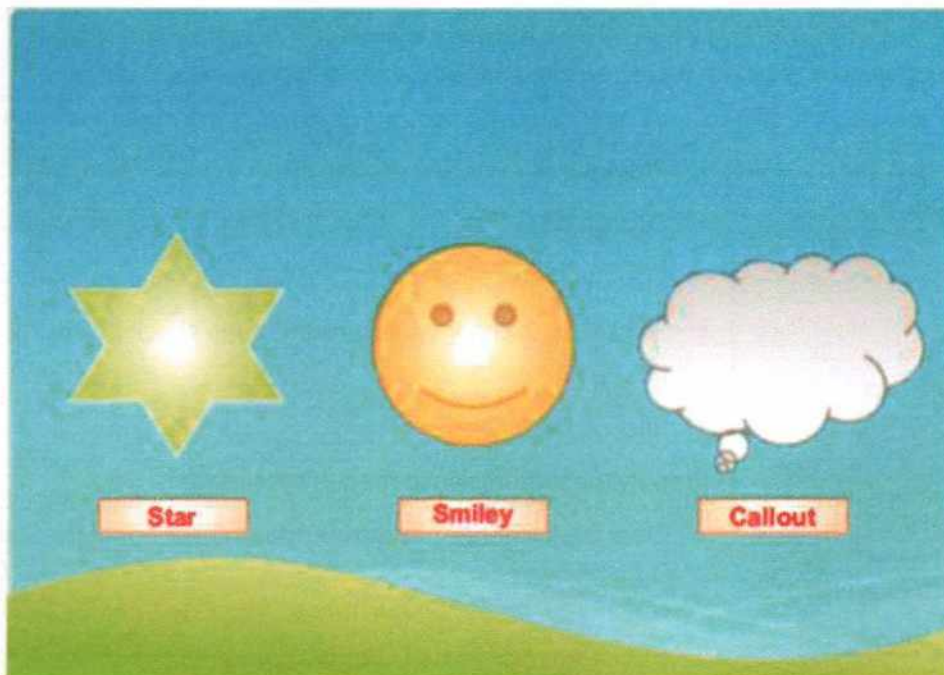
1. How will you insert an image from the LibreOffice Gallery?
2. Is it possible to insert an image as a link in a slide? If yes, briefly explain the procedure to do the same.
3. Which key is used to resize the shape uniformly?
4. What are the advantages of grouping shapes?



ACTIVITY ZONE

For Better Concept Clarity

- ✦ Draw the following shapes and add text boxes as headers to describe them.
- ✦ Group the relevant shapes and text boxes together and then ungroup them.



Working with Slide Master

SLIDE MASTER

In Impress, Slide Master is a master slide that enables you to control information and formatting of all the slides, such as theme, layout background, color, positioning, and so on. Every slide in a presentation has exactly one slide master, also known as master page.

CREATING SLIDE MASTER

Creating a new slide master is similar to modifying the default slide master. To create a slide master, follow the given steps:

- ✦ Select **Slide > Master Slide**.
- ✦ Click on **Load**.
- ✦ Under **Categories**, select a slide design category.
- ✦ Under **Templates**, select a template with the design that you want to apply.

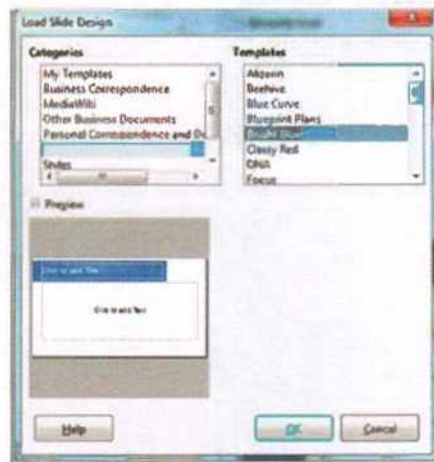


Fig. 20.2: Load Slide Design Dialog Box

- ✦ To preview the template, click on **Preview**.
- ✦ Click on **OK**.

To apply the slide design to all of the slides in your presentation:

- ✦ Select the **Exchange background page** check box in the **Slide Design** dialog box.
- ✦ Click on **OK**.

To apply the slide design to the current slide only:

- ✦ Clear the **Exchange background page** check box in the **Slide Design** dialog box.
- ✦ Click on **OK**.

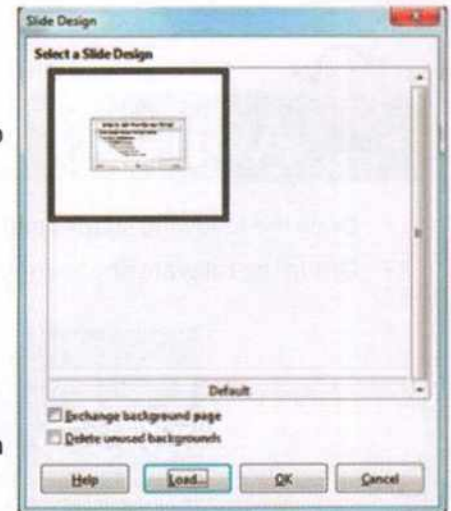


Fig. 20.1: Slide Design Dialog Box



Tip LibreOffice uses three terms for one concept: slide Master, Master Slide, and Master Page. All refer to a slide which is used to create other slides.

APPLYING THEMES USING SLIDE MASTER

Themes are the sets of predesigned formats that include text, layouts, background, colour schemes, etc., which can be applied to any presentation in order to enhance its appearance. To apply a theme, follow the given steps:

- ✦ Click on the **Master Slides** button on the **Sidebar**. Under the **Available for use** section, Impress shows a list of available themes that can be applied to your slides.
- ✦ You can click on any theme and see your slide change the way it looks.

✦ You can also save a particular theme's background image by following the steps mentioned below:

- ✦ Select the theme to be applied.
- ✦ Right-click on the slide to choose **Save Background Image** from the context menu.
- ✦ Provide a name to save the image file in the LibreOffice gallery.



Fig. 20.3: Applying Theme to the Slide

CHANGING BACKGROUND COLOUR OF A SLIDE

You can change the background colour, pattern, and texture of a slide, which helps you to give a different appearance to your slide.

BACKGROUND COLOUR

- ✦ Click on the **Properties** button from the Sidebar. The **Properties** bar is displayed.
- ✦ Choose the **Background** drop-down option and select **Color** to colour the slide background.
- ✦ From the palette of colours, choose your desired colour for the slide background.

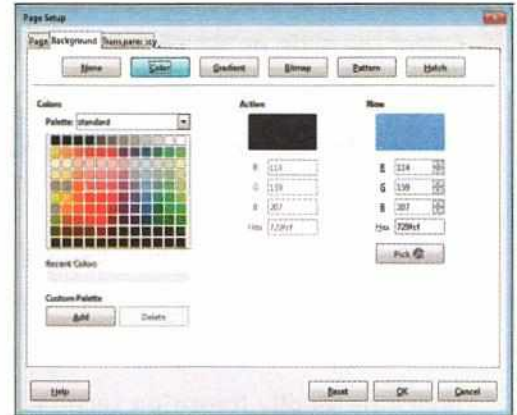
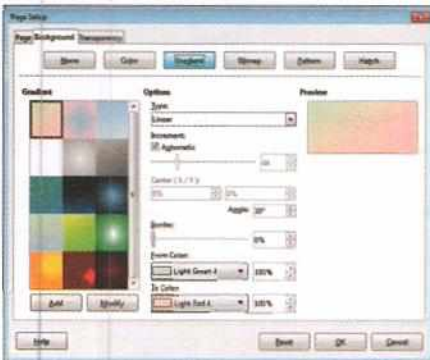


Fig. 20.4: Applying Background Colour



GRADIENT

- ✦ You can also choose **Gradient** from the **Background** drop-down list to give the slide background a mix of two colour shades.
- ✦ Similarly, a **Pattern** can also be selected.

BACKGROUND IMAGE

- ✦ In the same manner, you can also insert a background image, by choosing **Insert Image** button from the **Properties** from the side bar.

Fig. 20.5: Setting up the Slide Background

Tip You can choose **Properties** from the **Slide** menu. In the **Page Setup** dialog box, click on the **Background** tab and choose **Color, Gradient, Bitmap, or Pattern**.

SETTING IMAGE TRANSPARENCY

To set image transparency, follow the steps mentioned below:

- ✦ Choose **Properties** from the **Slide** menu.
- ✦ The **Page Setup** dialog box opens.
- ✦ Go to the **Background** tab and choose **Bitmap** to insert an image to the slide background.
- ✦ Open the **Page Setup** dialog box again.
- ✦ Go to the **Transparency** tab and set **Image Transparency** percentage.
- ✦ Click on **OK**.

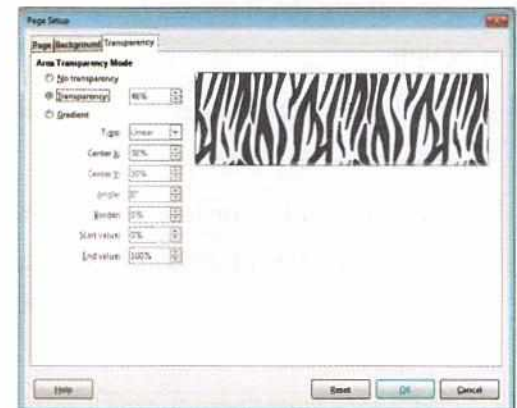


Fig. 20.6: Setting Image Transparency

ADDING TRANSITIONS

Transition effects are special effects that are used to enhance the interest of the audience and make the slides attractive. To give a presentation the professional touch, you need to add Transition effects to the slides. Let us learn how to apply this effect to the slides.

APPLYING TRANSITION EFFECTS TO A SLIDE

A **Slide Transition** is the visual motion when one slide changes to the next during a presentation like Roll down from top or Fly in from left, etc. These effects liven up your Slide Show and add dynamic flair to it. Follow these steps to add transition effects:-

- ✦ Select the slide on which you want to apply the transition effects.
- ✦ Click on **Slide > Slide Transition** or click on the **Slide Transition** tab from the sidebar.
- ✦ Click on any transition effect under **Slide Transition** section. The current slide will display a preview of the selected effect.
- ✦ You can also select a **Variant** of the selected transition effect under the **Modify Transition** section.
- ✦ Select any given speed from the drop-down list of **Duration** under **Modify Transition** section.
- ✦ To play a sound, select any sound effect by clicking on the drop-down list of Sound box under the **Modify Transition** section.
- ✦ The **Loop until next sound** option now becomes active. Select this option to play the sound repeatedly until another sound starts.
- ✦ If you want to advance to the next slide manually, choose 'On mouse click' available in the **Advance slide** section, else select **Automatically after** for automatic advancement and also specify the duration for which a particular slide stays visible.
- ✦ Click on the **Apply Transition to All Slides** button, if you want to apply the transition to all slides.
- ✦ If the **Automatic preview** checkbox is marked, the effect of the selected transition is immediately displayed in the work area. You can replay the effect at any time by pressing the **Play** button.
- ✦ Click on the **Slide Show** button if you want to start the slide show from the current slide.

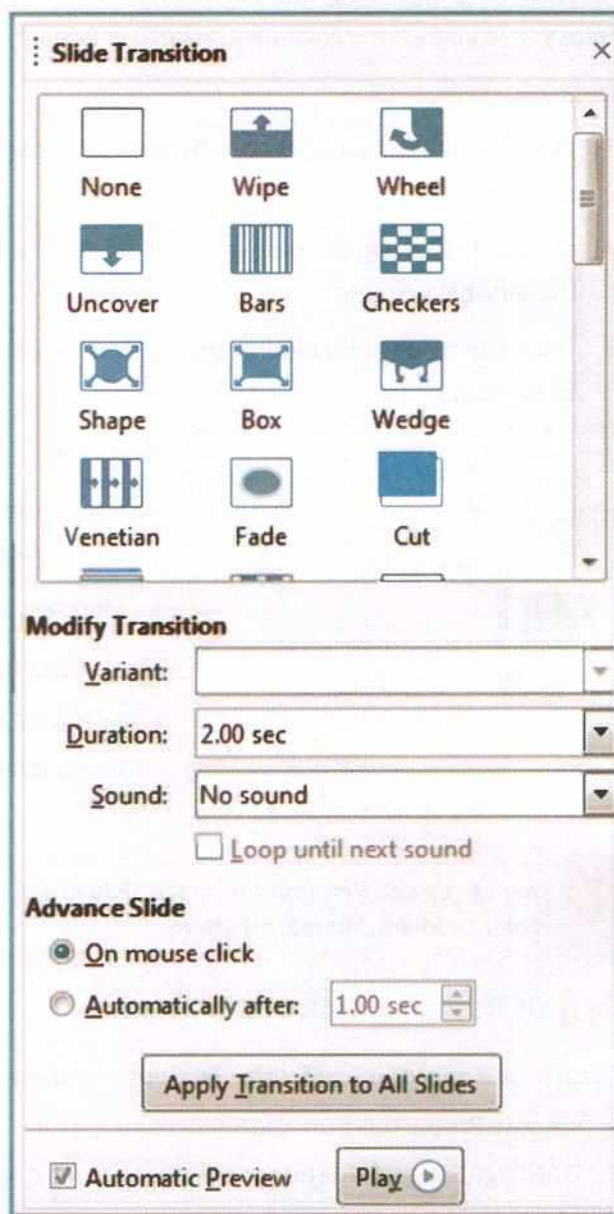


Fig.20.7:Applying Slide Transition

Answer the Following Questions:

1. What do you understand by Presentation Themes in LibreOffice Impress?
2. What is Slide Transition? Why do you apply it in your presentation?
3. How will you make your slides advance automatically to the next slide after a certain duration during a slide show?
4. How will you add an image in the background of your slide?



ACTIVITY ZONE

For Better Concept Clarity

1. Create a presentation with ten slides on the topic 'Diversity in India'. The presentation should depict the history, culture, festivals, food, languages, etc., of our country. Apply various transition animation effects to your presentation and make it attractive.
2. Open any existing presentation.
 - ✦ Select the first slide of the presentation.
 - ✦ Provide transition effects to this slide according to the following settings:
 - ✦ Set **Box** transition effect.
 - ✦ Choose the variant **Inside Out**.
 - ✦ Set the transition duration to 3 seconds.
 - ✦ Set a sound for this effect.
 - ✦ Set the slide advancement time to 10 seconds.
 - ✦ Let all the slides of the presentation have the same transition effects.
 - ✦ Watch the preview while making the settings apply.
 - ✦ Save the presentation.
 - ✦ View the slide show.





Recap



★ A table is a grid of cells arranged in rows and columns. They help us to input data in the form of fields and records.

- ★ Impress provides Table toolbar that offers all the tools that are used to format the table.
- ★ The Table properties on the sidebar also offer various options for formatting a table inserted on an Impress slide.
- ★ Impress supports various types of image file formats. The most common are GIF, JPEG, JPG, PNG, and BMP.
- ★ Impress supports inserting image links. Image links can help to reduce the size of the presentation file.
- ★ The LibreOffice Gallery contains a collection of Images that can be used in a presentation.
- ★ An image inserted on an Impress slide can be rotated, flipped, resized using various tools present on the image toolbar.
- ★ Shapes is a drawing feature that helps in drawing different built-in shapes, that can be further formatted as per choice.
- ★ Grouping two or more Shapes together helps in treating them as a single shape by Impress.
- ★ Shadow effects make the shapes impressive in appearance.
- ★ Presentation themes are the sets of predesigned formats that include text, layouts, background, colour schemes, etc., which can be applied to any presentation in order to enhance its appearance.
- ★ A Slide Transition is the visual motion when one slide changes to the next during a presentation.



BRAIN DEVELOPER

SECTION 1: OBJECTIVE TYPE QUESTIONS-(SOLVED)

A. Multiple Choice Questions:

1. menu contains the New Slide and Layout options in Impress.

a. Insert	b. Format	c. Tools	d. Slide
-----------	-----------	----------	----------
2. The in the Table toolbar allows you to change the pattern of the border of a table.

a. Area Style	b. Area Filling	c. Border Style	d. Border Pattern
---------------	-----------------	-----------------	-------------------
3. Which alignment option is to be used to align text in the middle of a cell?

a. Align Center	b. Center Vertically	c. Both a and b	d. None of these
-----------------	----------------------	-----------------	------------------
4. To apply different background colours to a table, you can use option from the Table toolbar.

a. Border Color	b. Area Style/Filling	c. Shape Fill	d. Border Style
-----------------	-----------------------	---------------	-----------------

5. To evenly distribute the horizontal and vertical space in the selected cells, use tool from the Table toolbar.
 - a. Optimize
 - b. Distribute
 - c. Spacing
 - d. Indent
6. Which effect is applied to all the slides of a presentation?
 - a. Animation
 - b. Transition
 - c. Design
 - d. Layout
7. Which checkbox is unchecked to set the presentation to advance on its own and display each slide for a specific amount of time?
 - a. On Mouse Click
 - b. Preview
 - c. Automatically Clicked
 - d. Automatic Preview
8. The transition effects are available under the menu.
 - a. Slide
 - b. Slide Show
 - c. Tools
 - d. Insert
9.cells option divides the selected cell further into separate cells in a table.
 - a. Merge
 - b. Split
 - c. Divide
 - d. Combine
10. A is the visual motion when one slide changes to the next during a presentation.
 - a. Animation
 - b. Layout
 - c. Slide Transition
 - d. None of the above

B. State True or False:

1. You can insert a Table in an Impress slide by using the Title and Content Layout.
2. The Intersection of a Row and Column in a Table is called as a Box.
3. Once you insert a table, Impress does not have an option to insert new rows or columns in the table.
4. The Table Design properties allow you to apply various Table Styles.
5. The Paragraph Properties in the Sidebar allow you to align the text only vertically.
6. Variation, Duration, and Sound are used to modify transition effects.
7. Transition effects can be applied to only one slide at a time.
8. A Slide Transition is the visual motion when one slide changes to the next during a presentation.
9. You can apply transition effects in the Slide Sorter view.
10. All the slides of a presentation must have the same transition speed.

C. Fill in the Blanks:

1. The images inserted on a slide can be formatted using the toolbar.
2. option brings the image in front of other overlapping objects/text.
3. Impress automatically shows the table Properties on the of the Impress window when a table is selected.
4. option helps to combine two or more cells of a table.
5. The tool on the Image toolbar helps in changing the RGB colour shades of the selected image.
6. Presentation are the sets of predesigned formats that include text, layouts, background and colour schemes.

7. The Image button available on the Sidebar helps you change the background colour, pattern, and texture of a slide.
8. The transparency of an image inserted on an Impress slide can be regulated by increasing or decreasing the Transparency of the image.
9. option present on the Slide Transition dialog is used for automatic advancement of slide(s), and also lets you specify the duration for which a particular slide stays visible.
10. A variant of the selected transition effect can be applied under transition section.

ANSWERS

A. Multiple Choice Questions

1. (d) 2. (c) 3. (c) 4. (b) 5. (a) 6. (b) 7. (a) 8. (a) 9. (b) 10. (c)

B. State True and False

1. (T) 2. (F) 3. (F) 4. (T) 5. (F) 6. (T) 7. (F) 8. (T) 9. (T) 10. (F)

C. Fill in the Blanks

1. Image 2. Bring to Front 3. Sidebar 4. Merge cells 5. Color 6. Themes
 7. Properties 8. Percentage 9. Automatically after 10. Modify

SECTION 2: THEORY QUESTIONS-(SOLVED)

1. What is a Table and how is it useful.

Ans. A table is a grid of cells arranged in rows and columns. It can be used to both store and display data in a structured format. Tables are useful for presenting text information and numerical data in an organized format.

2. Name the three common types of image files that can be inserted in a presentation.

Ans. Impress supports various types of image file formats. The most common are GIF, JPEG, JPG, PNG, and BMP.

3. What are themes?

Ans. Presentation themes are the sets of predesigned formats that include text, layouts, background, colour schemes, etc., which can be applied to any presentation in order to enhance its appearance.

4. What is the purpose of a Watermark?

Ans. A watermark is a logo, text, or pattern that is intentionally superimposed onto another image or background. Its purpose is to make it more difficult for the original image to be copied or used without permission.

5. How do you select objects that you wish to group?

Ans. To select two or more objects that you wish to group, follow any one of the below mentioned steps:

- + Click on the **Selection** tool present on the Drawing tool bar and drag around the shapes to be grouped.
- + Click on each shape to be added to the group while pressing the Shift key.

6. How do you ungroup the grouped objects?

Ans. To ungroup the grouped objects, select the group by clicking on it. Right-click on the selection and choose Ungroup from the context menu.

7. How will you apply a variant to a transition effect?

Ans. Click on any transition effect under Slide Transition section on the Sidebar. The current slide will display a preview of the selected effect. Select a Variant of the selected transition effect under Modify transition section.

8. Where can a picture placeholder be found?

Ans. Picture placeholder is found in the layout of a slide. To insert picture on a slide, choose the respective slide layout that contains a picture placeholder.

9. Which button, when selected, will ensure that the transition effect of all slides is the same as the one applied to the current slide?

Ans. The **Apply Transition to All Slides** button on the **Slide Transition** dialog is used to apply the current slide transition effects to all slides.

10. Why do you need to group objects sometimes?

Ans. Grouping multiple objects together helps in treating them as a single entity or object. They can be moved, rotated, resized, flipped, copied and deleted together.

SECTION 3: APPLICATION BASED QUESTION-(SOLVED)

Jyoti needs to create a beautiful presentation with the title, 'Diwali' and show the presentation in front of her class during Diwali celebration. How will she perform the following?

- a. Download pictures of beautiful Diwali lamps from the internet.
- b. Insert the downloaded pictures on the second slide of the presentation.
- c. Group all the pictures of lamps.
- d. Resize the grouped picture of lamps.
- e. Rotate the grouped picture of lamps.
- f. Ungroup the grouped picture of lamps.
- g. Copy the picture of the most colourful lamp to the next two slides.
- h. Apply 'Random' transition effect to the slides of the presentation.
- i. All the slides of the presentation should move automatically one after the another.
- j. Apply the same transition effects to all the slides of the presentation.

Ans.

- a. Use Google or any other search engine to search and download pictures of Diwali lamps. Save all the pictures in the same folder to make it easy for further use.
- b. After the Title slide, Insert the second slide with a picture layout. Click on the picture placeholder to insert picture(s), or choose **Insert > Image**.
- c. Select all the pictures by pressing Shift key while clicking on them, right-click to open the context menu, then choose **Group**.
- d. Select the grouped image, drag the selection points to resize the image.
- e. Select the grouped image, right-click on the picture to get the **Rotate** or **Flip** option in the context menu.
- f. Select the grouped image, right-click on the picture and choose **Ungroup** from the context menu.
- g. Select the desired picture, press Ctrl+C to copy it, then go to the next slide and press Ctrl+V to paste.
- h. Click on **Slide > Slide Transition** or click on the **Slide Transition** tab from the sidebar, then choose **Random**.
- i. Select **Automatically after** in the **Slide Transition** dialog on the **Sidebar**.

- j. Click on **Apply Transition to All Slides** in the **Slide Transition** dialog on the **Sidebar**.

SECTION 4: THEORY QUESTIONS-(UNSOLVED)

1. What are the different ways to insert a table in a slide? Explain any one way to insert a table.
2. In which menu is the Picture option found?
3. What are the three options at the bottom of the Insert Picture dialog box?
4. How can multiple pictures be inserted at the same time?
5. In which menu is the gallery of shapes present?
6. How can you resize a shape?
7. How can you add text in a shape?
8. How will you add various effects to a graphical object?
9. How can you change the colour scheme of a theme?
10. How can you display the gallery of different background styles?
11. What are the different Fill options in the Format Background dialog box?
12. In which dialog box and tab is the Solid fill option found?
13. What do you understand by transition effects?
14. How do you apply a sound effect to a slide? How do you check how it sounds?
15. How do you set the advancement so that each slide advances to the next slide after 15 seconds?

SECTION 5: APPLICATION BASED QUESTION-(UNSOLVED)

1. Rajan has created a presentation on school books to show during the 'Book Reading Week' organised in his school. His class teacher asks him to insert a banner on the second last slide of the presentation with text "KIPS... The Best School Computer Books". Fill it with light-green colour and apply a suitable Gradient fill to it.
2. Using shapes create an attractive slide on 'Summer Camp' as shown in the figure below.



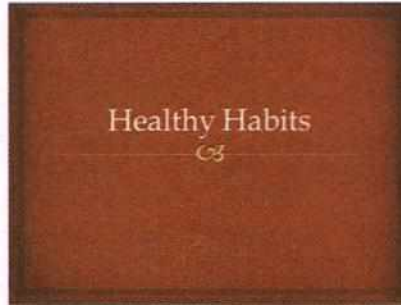


ACTIVITY ZONE

For Better Concept Clarity

Create a new presentation as shown in the figure:

- ◆ First open a blank presentation.
- ◆ Type the Title Heading- Healthy Habits.
- ◆ Add a new slide.
- ◆ On the second slide, type the heading - Healthy Habits.
- ◆ Type the text as shown in the figure
- ◆ Insert the picture.
- ◆ Choose any theme by clicking on the **Design** tab and selecting any of the available themes from the **All Themes** list.



Sample Question Paper

Time: 2 Hours

INFORMATION TECHNOLOGY (SUBJECT CODE 402)

Max. Marks: 50

Sample Question Paper

General Instructions:

1. *This Question Paper consists of two parts viz. Part A: Employability Skills and Part B: Subject Skills.*
2. **Part A: Employability Skills (10 Marks)**
 - i. *Answer any 4 questions out of the given 6 questions of 1 mark each.*
 - ii. *Answer any 3 questions out of the given 5 questions of 2 marks each.*
3. **Part B: Subject Skills. (40 Marks)**
 - i. *Answer any 10 questions out of the given 12 questions of 1 mark each.*
 - ii. *Answer any 4 questions from the given 6 questions of 2 marks each.*
 - iii. *Answer any 4 questions from the given 6 questions of 3 marks each.*
 - iv. *Answer any 2 questions from the given 4 questions of 5 marks each.*
4. ***This question paper contains 39 questions out of which 27 questions are to be answered.***
5. *All questions of a particular part/section must be attempted in the correct order.*
6. *The maximum time allowed is 2 hrs.*

PART A: EMPLOYABILITY SKILLS (10 MARKS)

A. Answer any 4 questions out of the given 6 questions of 1 mark each:

1. communication is the most formal form of communication.
2. Being accountable means being for your actions.
3. is the master control program of the computer.
4. price is the price of goods or products when they are sold to customers for consumption, and not for resale.
5. Green economy emphasises on becoming more efficient.
6. Our family, neighbourhood, friends, relatives, school constitute our

B. Answer any 3 questions out of the given 5 questions of 2 marks each:

7. What are the features of effective communication?
8. Describe briefly the three key skills required for Self-Management.
9. What do you mean by peripheral devices? How can we categorise them?
10. What do you understand by the term 'Business'? What are the four forms of business organisations based on ownership?
11. What are the benefits of moving towards green economy?

PART B: SUBJECT SKILLS (40 MARKS)

C. Answer any 10 questions out of the given 12 questions:

12. RapidTyping includes a keyboard.
13. The general appearance and arrangement of text in a document is called
14. is a group of contiguous cells in a spreadsheet which form the shape of a rectangle or square.
15. A allows you to visually display data in a variety of different graphical formats.
16. ITeS enabled services radically reduce and improve service standards.
17. Which of the following option in a Word Processor indents all lines other than the first line?
a. Right Tab b. Left Tab c. Hanging Indent d. None of these
18. Which bar is used to enter, edit, and display the contents of the active cell in Spreadsheet software?
a. Formula bar b. Address bar c. Scroll bar d. None
19. Which view contains the thumbnails view of all slides in a presentation?
a. Normal b. Notes Page c. Slide Sorter d. Slide Show
20. In a presentation software, which element of the design template stores information about the template, placeholder sizes, and position of text and objects, bullet styles, background design, and colour schemes?
a. Slide Transition b. Slide Master c. Sample Design d. Slide layout
21. What is the full form of ATM?
a. All Time Money b. Any Time Money
c. Automatic Transaction Machine d. Automated Teller Machine

22. Mention the home row keys for the left and right hand.

23. What do you understand by Typing Rhythm?

D. Answer any 4 questions out of the given 6 questions of 2 marks each:

24. How has IT influenced the modern education field? Mention any three points.
25. Explain the role of typing ergonomics.
26. What is Thesaurus? How is it used while preparing a document?
27. What is a Spreadsheet? What are its various elements?
28. What is the basic difference between BPO and BPM?
29. What is a slide layout? How can it be modified in a presentation?

E. Answer any 4 questions out of the given 6 questions of 3 marks each:

30. Define the following features of a word processor:

- a) Find & Replace
- b) Navigator
- c) Page Break

31. What are functions? Suggest the Calc functions which can be used for the following:

- a) To calculate the average marks obtained by a student in examination, assuming that his/her marks of individual subjects are given.
- b) To find the highest marks of Hindi in your class, if marks of all students are given.
- c) To calculate the quarterly sales of a sales executive, if the sales data of all months is given.
- d) To find out the minimum quoted tender rates submitted by various companies to the Govt. of India.

32. Define the term table. Briefly explain the use of a table in a document. How will you create a table in LibreOffice Writer?

33. Mention the characteristics of a good quality presentation.

34. Define ITeS. Briefly describe the impact of IT in your everyday life.

35. What do you understand by Templates? How will you create an Impress presentation based on a pre-defined template?

F. Answer any 2 questions out of the given 4 questions of 5 marks each:

36. What is cell referencing? What are the various types of cell referencing that can be used in Spreadsheet? Explain with suitable examples of each.

37. What are the various views in LibreOffice Impress? Mention the various operations that can be performed on a slide in the Slide Sorter view.

38. What is Mail Merge? What are the advantages of using Mail Merge in a document? Write the steps involved in Mail Merge.

39. What is Slide Master? How do you create a master slide in LibreOffice Impress and apply it to all the slides of the presentation?



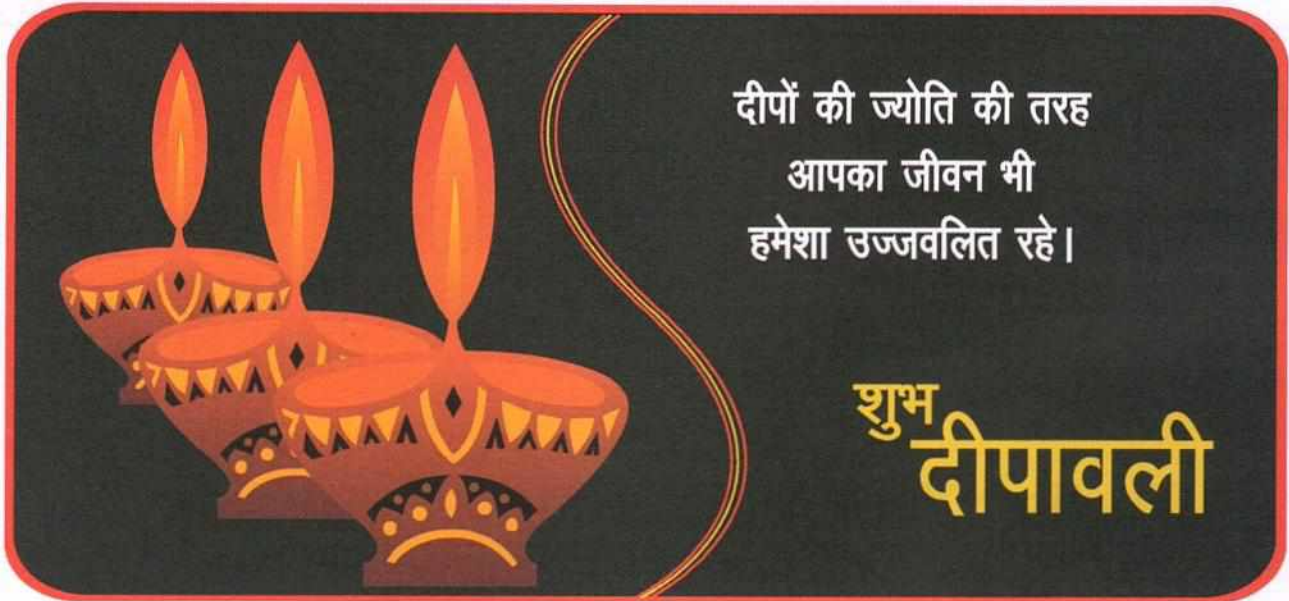


PROJECT WORK

- **LibreOffice Writer**
- **LibreOffice Calc**
- **LibreOffice Impress**

Writer Project-1

Create a greeting card on **HAPPY DIWALI**. You can use the search engines, like Google and Bing to take image from the Internet. Use any suitable Hindi fonts, like Kruti Dev, Devnagri, Narad, etc.




Writer Project-2

Make Poster On 'Say No to Crackers' in writer application.

ENSURE IT IS NOT YOU!

So many people lose their lives, succumbing to injuries every Diwali. Only because they do not take enough precautions while bursting firecrackers. Do not let it happen in your family. Stay away from firecrackers.



**SAY
NO
TO
CRACKERS**

For a safe and enjoyable Diwali, ensure the following:

- ◆ Do not leave children unattended
- ◆ Do not burst flying crackers
- ◆ Keep candles, diyas, agarbattis away from clothes and other materials that can catch fire
- ◆ Avoid wearing loose clothes
- ◆ Keep water bucket nearby
- ◆ Remove the inflammable material / storage of condemned articles from roof tops
- ◆ Keep doors and windows closed

Food and Health

Vegetarianism promotes a natural way of life. However, despite its implicit message of universal love and non-violence, the concept has not spread, as it should have. This may be because it usually is an inward-looking habit, and is best cultivated in the mind.

In India, a vegetarian is usually a lacto-vegetarian. In the Western world vegetarians are sub-divided as "vegans" (pure vegetarians who do not take any food coming from animal kingdom), lacto-vegetarians, who use dairy products of the vegetable kingdom, and lacto-ova-vegetarians. The last category includes eggs, in addition to the dairy products.

The Western science of food considers food as something to sustain only the human body, whereas Indian science considers food as something which sustains not only the body, but also maintain purity of heart, mind, and the soul.

Vegetarian food provides an infinite variety of flavours whereas, non-vegetarian foods have hardly any taste of their own. In fact, non-vegetarian food has to be seasoned with

ingredients from the vegetable kingdom to make them palatable.

In most sports disciplines, vegetarians lead in endurance test. "You are what you eat" is an old saying, and it is a fact that it is the food that makes the man. The food we eat, its quality, quantity, its timing, and combination is of utmost importance to healthy life.

It is significant to note that in USA nearly 30 to 40 million people have adopted vegetarianism in the last decade.

In UK, surveys have shown that the medical bills of vegetarians are considerably lower than the non-vegetarians.

A vegetarian diet is more useful in the treatment of liver disorders including last stage of liver failure, when the dietary intake of fat is to be reduced. Vegetarians tend to have lower blood pressure. Lacto-vegetarian diets with higher fiber content, low acid, and high vitamin and minerals prevent, and to a certain extent relieve the pain felt with the progression of arthritis.



INSTRUCTIONS

- ◆◆ In a new document, set the Page Style:
 - Top Margin :1"
 - Bottom Margin: 1"
 - Left Margin : 2"
 - Right Margin: 1.25"
- ◆◆ Create two columns
 - Font : Calibri
 - Heading: Bold, Font Size: 16
- ◆◆ Type the given matter in the columns.
 - Font - Arial, Font Size: 12 pt
 - Line Spacing - 1.5
 - Paragraph Spacing: 6 pt each (Before and After)
- ◆◆ Insert a picture from file, and place it in the center of the text.
- ◆◆ Click **Arrange** group on **Format** tab. Click on **Wrap Text** drop-down menu and apply **Tight** option on the picture.
- ◆◆ Make the first character 'V' of 'Vegetarianism' a little bigger using the **Drop Cap** effect.
- ◆◆ Save the document.

Why do we need food?

We all enjoy and eat food but why do we need it and what does our body do with it? Below are some of the main reasons why we need food:

➤ For energy

You need food to work your muscles and other body organs. Food is the body's fuel that keeps it going, without it the body would not work.

➤ For growth and repair

In order for your body to grow you need to make new cells. New cells are also needed to replace old or damaged cells. Your body makes these new cells from the chemicals in your food.

➤ To stay healthy

There are lots of reactions taking place in the cells of your body to keep you healthy and keep your body working. Certain chemicals are needed for these reactions which can only be taken in from the food you eat.

A balanced diet

In order to maintain good health, our body must have a **healthy** and **balanced** diet. This means we must eat sufficient food and also eat a variety of foods, in this way our body gets all the different nutrients it needs.

There are seven nutrition groups found in the food we eat, these are:

1. Carbohydrates.
2. Proteins.
3. Fat.
4. Fiber.
5. Vitamins.
6. Minerals.
7. Water.



The different food groups, the sources, and how they help:

FOOD TYPE	HOW DOES IT HELP?	WHERE DO WE GET IT?
CARBOHYDRATES	Provides quick energy. 60% of our diet should comprise 'carbs'.	Pasta, cereals, and potatoes
FATS Unsaturated fats are healthy. Too much saturated fat from animal products can lead to heart disease.	Provides slow energy. 25% of our diet should be fat.	Oils, dairy products, nuts, and fish
PROTEIN	Builds and repairs muscle. We only need 15% of our diet to be protein.	Meats, pulses, and fish
VITAMINS A - for vision B - for energy production and stress reduction C - to keep skin healthy D - to help bones and teeth	Helps the body work. Helps concentration.	Fresh fruit and vegetables
MINERALS Calcium - to strengthen bones Iodine - for energy production Iron - prevents fatigue	Helps release energy from food. Helps decision making	Fruit, vegetables, and fish
FIBER	Can't be digested. Fills you up and keeps you 'regular'	Fresh fruit, vegetables, and wholegrain cereals
WATER	Maintains fluid level	The tap! It's all you need most of the time

Writer Project-5

INSTRUCTIONS

- ◆ Type an MS Word document as shown in the example.

- ◆ Page Margins:

Top: 0.56"

Left, Right, Bottom Margins: 1"

- ◆ The Headings:

Font: Arial Black

Font Style: Bold

Font Size: 18

Font Color: Green

- ◆ The Sub-headings:

Font: Calibri

Font Style: Bold, Underline

Font Size: 16

Font Color: Purple

- ◆ Document Text:

Font: Calibri

Font Size: 14

Text Alignment: Justify

- ◆ Give the first page a Border by choosing a color and line style of your choice from the **Page Layout** Menu Option.

- ◆ Use **Bullets** and **Numbers** for the lists on the first page as shown in the example.

- ◆ Insert an image and format it as follows:

Give the picture **Effects** and **Borders** of your choice from the **Picture Tools** Menu Option.

- ◆ Create a table showing the Food Groups as given in the example.

- ◆ Format the table as follows:

Font: Times New Roman

Font Style: First Column - Bold

Font Size: Table Heading - 16, Table Contents – 12

Text Alignment: Table Heading - Centre, Table Contents – Left

Give the table appropriate background colors as per your choice.

- ◆ Save the document.

Impress Project-1

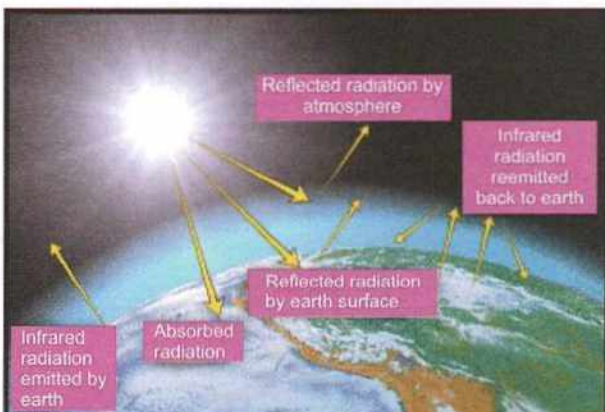
Create a thought provoking presentation on **GLOBAL WARMING**. Take guidelines from the ideas given below. Also take the help of the Internet to gather facts and images about Global Warming. You can use sites, like slideshare.com, wikipedia.org, etc. and search engines like Google and Bing.



Global Warming



Global Warming Causes & Effects



Effects of Global Warming

What is Global Warming?

Earth is naturally insulated by a delicate balance of heat-trapping "Greenhouse" gases in the atmosphere.

When the sun shines on the Earth, some of the heat is absorbed, keeping Earth warm enough to support life.



Causes of Global Warming

1. Natural Causes

- Greenhouse effect

2. Man-made Causes

- Carbon Dioxide (Cars, Airplanes and Factories)
- Burning fossil fuels
- Population
- Cutting down trees



Solution to the problem...

- Investing in renewable energy. (Wind and Solar).
- Plant more trees
- Build more cool cities projects
- Save electricity and power
- Use public transportation
- Eat more organically grown food
- Recycling
- Re- think about your life style



Impress Project-2

Create an interesting presentation on **WIRELESS TRENDS**. Take guidelines from the ideas given below but do proper research on the Internet to gather facts and images about **WIRELESS TRENDS**. You can use sites, like slideshare.com, wikipedia.org, etc. and search engines like Google and Bing.

Wireless Computing



Wireless computing uses the radio spectrum rather than telephone or Ethernet cables to send digital information. The name harkens back to the earliest days of radio, and appropriately since wireless computing is very much a young field.

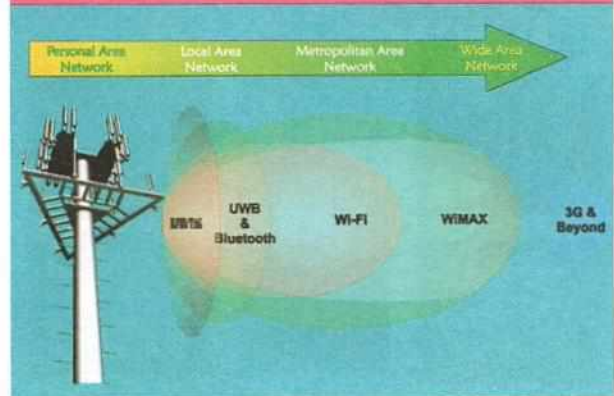
Seven Trends in Wireless Living WIRELESS COMPUTING

1. Widespread Consumer Adoption
2. Convergence in technologies
3. Connectivity improvements
4. Desktop power in pocket wireless devices
5. Enterprises have seen the value of mobilizing
6. Monetization of content and services
7. Mobile devices become mobile appliances

Any data, any time, any place



Full Range of Wireless Technologies



Handset Evolution & Convergence



A Vision of the Future



Impress Project-3

Create an interesting presentation on **DISASTER MANAGEMENT**. Take guidelines from the ideas given below but do proper research on the Internet to gather facts and images about **DISASTER MANAGEMENT**. You can use sites, like slideshare.com, wikipedia.org, etc. and search engines like Google and Bing.



- **Disasters** whether natural or man-made can strike at any time.
- The general **response to a disaster** is in terms of relief and rescue operations.
- If we are adequately prepared, its possible to severely **reduce the impact** of a disaster.
- The impact can be reduced through a good understanding of **preventive actions**.



Types of Natural Disasters



A **Disaster** can be defined as:

- A **sudden accident or natural event** that causes **loss of life**.
- The **biggest problem** with the disasters is the **suddenness and swiftness** with which they arrive.



Disaster Management Cycle



- **Mitigation:** Reduces the chance of a hazard taking place.
- **Risk reduction:** Seeks to avoid future risks as a result of a disaster.
- **Prevention:** Avoiding a disaster even at the eleventh hour.
- **Preparedness:** Plans made to save lives or property.
- **Response:** Actions taken to save lives and prevent property damage.
- **Recovery:** Actions that assist a community to return to a sense of normalcy after a disaster.

Calc Project-1

	A	B	C	D	E	F	G	F
1								
2	PROGRESS REPORT							
3								
4	ROLL NO	NAME	HINDI	COMPUTER	MATHS	ENGLISH	TOTAL	PERCENTAGE
5	101	Ajay	67	50	77	45	239	
6	102	Arshia	34	67	66	67		
7	103	Ahana	66	78	44	89		
8	104	Jaya	88	56	22	67		
9	105	Joy	66	67	78	67		
10	106	Tom	55	45	56	56		
11	107	Sarika	34	55	66	34		
12	108	Ramesh	45	78	89	78		
13	109	Gagan	56	34	67	56		
14	110	Sarab	70	89	89	66		

INSTRUCTIONS

- ◆ Enter the heading 'PROGRESS REPORT' in cell C2.
- ◆ Set the **Font-** 'Bookman old style', **Font Size-**16 pt.
- ◆ Highlight the heading and select **Merge Cells** option to merge the cells into one.
- ◆ For the field names, set **Font-** 'Arial' and **Font Size-**14.
- ◆ Enter the data. After entering Roll number 101 and 102, use **AutoFill** option to fill rest of the entries.
- ◆ Calculate Total using **Sum** function.
- ◆ Copy the formula of Total in rest of the cells in the same column by using drag method up to G14.
- ◆ Calculate the percentage in cell H5 using the formula =G5/4.
- ◆ Copy the formula in rest of the cells.
- ◆ Select cell B8 and clear its contents.
- ◆ Move the contents of cell B10 to B8 and type Vikram in cell B10.
- ◆ Plot the data in **Column** chart.
- ◆ Display the Students' name on X axis and Marks on Y axis and apply all formatting effects to it.
- ◆ Save the worksheet.

Calc Project-2

	A	B	C
1	WEATHER REPORT		
2	CITIES	TEMPERATURE	
3		MAX	MIN
4			
5	Amritsar	40.2	21.3
6	Mumbai	32.1	20.5
7	Chandigarh	33.0	19.5
8	Chennai	40.1	28.5
9	Delhi	38.4	24.6
10	Pune	39.3	24.7
11	Jaipur	38.3	24.1
12	Lucknow	31.0	20.5

INSTRUCTIONS

- ◆ Design a Worksheet as shown above to display Weather Report of different cities.
- ◆ For the Headings, set **Font**-Arial and **Font Size**-16 pt. Set **Font Size** -14 pt. for field names and for rest of the data entries **Font Size** -12 pt.
- ◆ Find Maximum Temperature of column C using **MAX()** function.
- ◆ Find Minimum Temperature of column D using **MIN()** function.
- ◆ Apply border on the worksheet by clicking on **More Border** button in the **Font** group on the **Home** tab. Select your desired Borders style and change its color to red.
- ◆ Select the field names and fill with **yellow** shade.
- ◆ Change the color of the text to blue.
- ◆ Plot the data in **Bar** chart. Give the Chart Title - "Weather Analysis". Change its **Font** to 'Tahoma', **Font Size**-14 pt, and **Font Color**- 'Blue'.
- ◆ Right-click on **Chart Area** and select **Format Chart Area** tab. Change the background color of the Chart Area to gray.
- ◆ Change the placement of **Legend** to bottom.
- ◆ Save the file.

Calc Project-3

	A	B	C	D
1	CRICKET MATCH			
2	PLAYERS	RUN		TOTAL
3		INNING-I	INNING-II	
4	Rohit Sharma	157	63	
5	Shikhar Dhawan	101	125	
6	Virat Kohli	60	73	
7	Yuvraj Singh	82	2	
8	Suresh Raina	58	75	
9	MS Dhoni	48	62	
10	Ravindra Jadeja	130	54	
11	Ravichandran Ashwin	72	23	
12	Bhuvneshwar Kumar	68	53	
13	Mohit Sharma	42	28	
14	Mohammed Shami	15	10	

INSTRUCTIONS

- ◆ Design a Worksheet as shown above to display the score of each cricketer.
- ◆ Find the total score of Rohit Sharma in cell **D4** by using the formula **=SUM(B4:C4)**
- ◆ Drag and Copy the formula from cell **D5** to **D14** to calculate the total score of other players.
- ◆ Find maximum and minimum score in the innings by using **Max()** and **MIN()** functions.
- ◆ Plot the data in a **Column** chart.
- ◆ Change the Font, Font Size, Font Color, and Style of Chart Title "CRICKET MATCH".
- ◆ Change the minimum Scale value of **Y** axis to 20.
- ◆ Format the Legend by applying **Border color** and **Border style** of your choice.
- ◆ Save the worksheet.



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