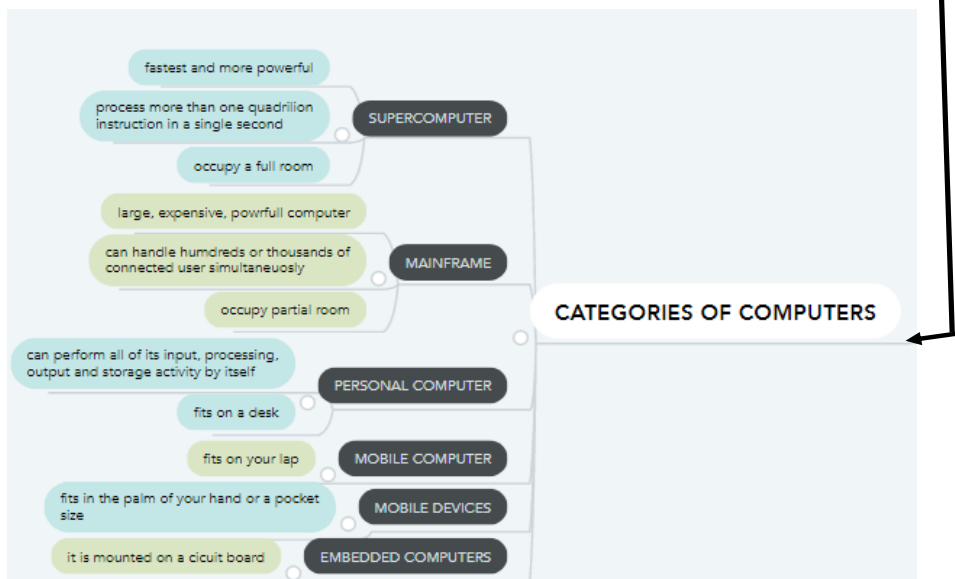
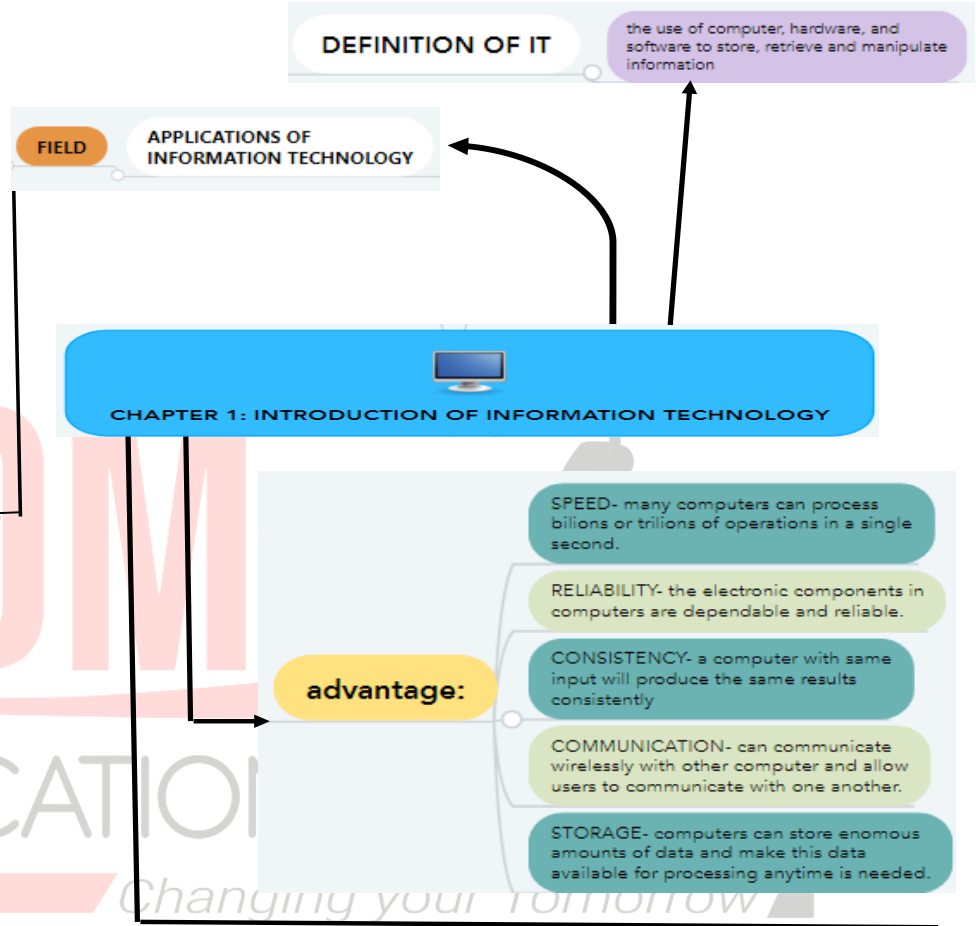
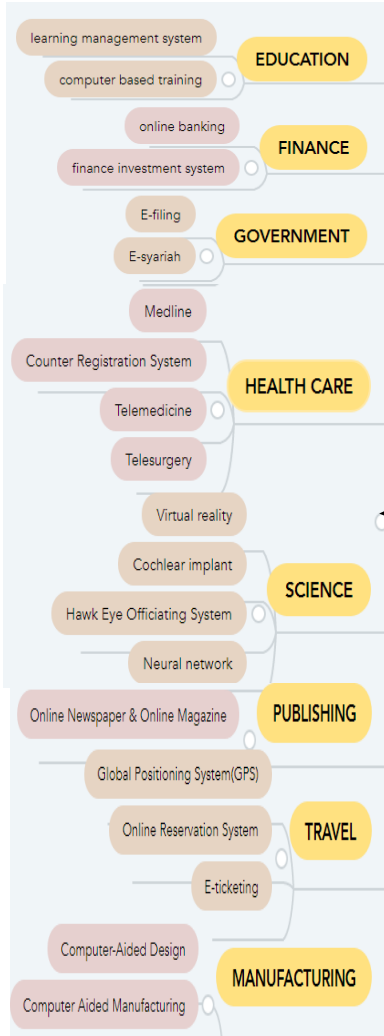


(PART B)CHAPTER-01 Introduction to IT-ITeS Industry

LECTURE-1

Memory Map



Introduction:

- Information and Communication Technology (ICT) has become one of the basic requirements of the modern society.
- In today's digital era, we use mobile devices to perform the tasks of our daily life. It is difficult to think of any event without the use of digital devices.
- Information Technology (IT) is one of the world's fastest growing economic activities.
- The Information Technology enabled Services (ITeS) sector has not only changed the way the world looks at our country but has also made significant contributions to the Indian economy.
- **This session will introduce the basic concepts and ideas related to Information Technology (IT) and IT enabled Services (ITeS).**

Information Technology

- Information Technology (IT) means creating, managing, storing and exchanging information.
- IT includes all types of technology used to deal with information, such as computer hardware and software technology
- IT has several benefits for a business, such as it helps in reaching more potential customers, developing a business relationship with potential customers, streamlining operations, reducing costs, improving efficiency, maximising profit, minimising waste, providing better service to customers.

Information Technology enabled services(ITeS)

- Information Technology that enables the business by improving the quality of service is Information Technology enabled Services (ITeS).
- ITeS is also called web-enabled services or remote services .
- These services provide a wide range of career options that include opportunities in all offices like ***call centres, payrolls, logistics management, revenue claims processing, medical billing, coding, medical transcription, legal databases, back office operations, content development, GIS (geographical information system), web services and Human Resource (HR) services, etc.***

- Its diverse areas like finance, HR, administration, health care, telecommunication, manufacturing, etc.
- E-enabled services radically reduce costs and improve service standards. In short, Internet service provider aims to provide **B2B e-commerce** solutions.
- ITeS offers different services integrated in a single delivery mechanism to end users.

BPO Services

- Business Process Outsourcing (BPO) services means performing business operations through an outside service provider.
 - BPO also comes under IT services as plays a very useful role in optimising the business performance.
 - India has the expertise in reducing costs with firm control on the quality of the service.
 - Some of the BPO services are as follows:
- (a) Financial and Accounting Services
 - (b) Taxation and Insurance Services
 - (c) E-Publishing and Web Promotion
 - (d) Legal Services and Content Writing
 - (e) Multimedia and Design Services
 - (f) Document Management Services
 - (g) Software Testing Services
 - (h) Health Care Services

Home Assignment

1. What do you understand by the term IT and ITeS?
2. What are the career provided by IT-eS ?
3. What is BPO ,How it is helpful in todays World?
4. What are the BPO services.

LECTURE-2

BPM industry in India

- The IT BPM (Business Process Management) industry has been fueling India's growth. In addition to contributing towards the country's Gross Domestic Product (GDP) and exports.
- The growth of the IT BPM industry has provided India with a wide range of economic and social benefits which includes creating 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
- The IT-BPM industry has almost doubled in terms of revenue and contribution to India's GDP over the last decade (2008–18).

Advantages of BPO industries

- BPO Service Industry is doing exceptionally well in India because of the following advantages:
- (a) BPO service providers in India invest in hi-tech hardware and software to deliver the best of services. They follow quality checks to ensure error free and exceptional service.
- (b) Government of India is encouraging the BPO Industry in India by providing necessary infrastructure and logistical support.
- (c) BPO Industry in India is highly developed and capable of delivering numerous types of BPO services in exceptional quality.

Structure of the IT-BPM industry

- The organisations within the IT-BPM industry are categorised along the following parameters:
 - Sector the organisation is serving
 - Type as well as range of offering the organisation
- provides
 - Geographic spread of operations

- Revenues and size of operations
- **(a) Multinational Companies (MNCs):** MNCs have their headquarters outside India but operate in multiple locations worldwide including those in India. They cater to external clients (both domestic and/or global).
- **(b) Indian Service Providers (ISPs):** ISPs started with their operations in India. Most of these organisations have their headquarters in India while having offices in many international locations. While most have a client base,
 - which is global as well as domestic, there are some that have focussed on serving only the Indian clients.
- **(c) Global In-house Centers (GIC):** GIC organisations cater to the needs of their parent company only and do not serve external clients.

Home Assignment

1. What are the advantages of growth of IT BMP industries in India ?
2. What are the reason for BPO doing exceptionally well in India ?
3. What are parameters of IT-BPM industry are categorised ?
4. What is MNCs ?
5. What is) Indian Service Providers (ISPs) ?
6. What is Global In-house Centers (GIC) ?

Changing your Tomorrow

LECTURE-3

IT applications

- In technologically developed nations, Information Technology has become a part of everyday life. For a user, computer is a tool that provides the desired information, whenever needed.
- The use of computer and Information Technology can be observed at home, workplace, in the modern service industry and in all aspects of our life.

IT in home computing

- A personal computer (PC) is used to work at home, to
- do household accounts, play games, surf the web, use e-mail, create music, and pursue a range of other hobbies.
- PC is also used to play games. It includes action games, role playing games, puzzles and many more.
- A PC with a CD-ROM drive, sound card, and speakers can play audio CD. A computer can be used from home to study a wide range of online training courses. Computers and digital devices are now used for online shopping and e-commerce

IT in everyday life

- In our daily life, we use washing machines, microwave oven and many other products using which have embedded software.
- We can store all the information about our important work, appointments schedules and list of contacts in a computer.
- Computer is, therefore, playing a very important role in our lives and now we cannot imagine the world without computers.

IT in library

- Nowadays many libraries are computerised. Each book has a barcode associated with it. This makes it easier for the library to keep track of books and the availability of a specific book.
- Computer software is used to issue and return the book.
- Each book in the library has a magnetic strip attached to it that is deactivated before the book can be borrowed

IT at workplace

- In the office environment, computers and computer applications are used to perform office work more effectively.
- In assembly-line industries, where attention to detail, speed and efficiency are important, automation is becoming more and more common

IT in education

- Computers and Information Technology are extensively used in education for teaching-learning and assessment.
- The software and hardware technologies used for creation and transmission of information in various forms including still pictures, audio, video and animation to the learners.
- The learning becomes easy and accessible

through IT. A lot of teaching resources are available for teachers to teach in a better way.

- Online assessment helps to assess the students without any biasness.
- The students, teachers and educational

administrators and every stakeholder in the education sector has benefitted with the integration of IT in education.

(a) ICT in the classroom

There are many ways in which the ICT is used for education in the classroom, such as

- e-learning classrooms;
- smart-board presentations;
- videos on experiments;
- creation of images and video;
- desktop publishing of magazines, letters and documents;
- educational games;
- learning using the CD-ROM media; and
- gathering educational information on the
- Internet.

(b) Education — anywhere anytime

- Any student in India can access the NCERT book online
- through the website www.eathshala.nic.in or mobile app
-

Apart from this there are a variety of websites and mobile apps to access educational resources on any topic. You can also contact a teacher or a trainer via Internet to use WBT (Web-based Training).

(c) Teaching aids and media

ICT is used mostly as a teaching aid in schools to

- use pictures, animations and audio-visuals to explain subjects that are difficult to explain.
- make the lessons interesting using presentations.
- organise lessons using the computer.
- obtain the information relevant to the subjects.

(d) Learning Management System (LMS)

- A Learning Management System (LMS) is being used by many countries to manage school systems. A student or teacher can register himself/herself on the official website to access LMS and can get many services from LMS. The student can be benefited by using LMS, as it can be used to
 - learn lessons anytime and anywhere.
 - submit queries, getting replies and submit comments through forums.
 - participate in the co-curricular activities via video.
 - monitor the progress of their children (by parents).

Home Assignment

1. What are the advantages of growth of IT BMP industries in India ?
2. What are the reason for BPO doing exceptionally well in India ?
3. What are parameters of IT-BPM industry are categorised ?
4. What is MNCs ?
5. What is) **Indian Service Providers (ISPs)** ?
6. What is **Global In-house Centers (GIC)** ?

LECTURE-4**IT in Entertainment**

- Information Technology has had a major impact on the entertainment industry. Internet is a major source of entertainment.
- One can download and view movies, play games, chat, use multimedia, incorporate visual and sound effects using computers, etc.
- Digital broadcasting has changed the way we experience television, with more interactive programming and participation.

IT in communication

- Communication is used to convey messages and ideas, pictures, or speeches.
- A person who receives this must understand clearly and correctly. Modern communication makes use of the computer system.
- We use computers for email, chatting, FTP, telnet and video conferencing

IT IN BUSINESS

- Computers are used in business organisations for payroll calculation, budgeting, sales analysis, financial forecasting, managing and maintaining stocks
- A lot of business transactions happen through Internet called e-commerce.
- IT facilitates marketing, customer visit, product browsing, shopping basket checkout, tax and shopping, receipt and process order.
- E-commerce offers services pertaining to processing inventory management, transactions, documentation, presentations, and gathering product information.
- Smart cards, such as credit cards and debit cards are used in shops.

IT in science and engineering

- Scientists and engineers use computers for performing complex scientific calculations, Computer Aided Design (CAD) or Computer Aided Manufacturing (CAM) applications are used for drawing, designing and for simulating and testing the designs. Computers
- are used for storing large amount of data, performing complex calculations and for visualising 3-dimensional objects.
- Complex scientific applications like rocket launching, space exploration, etc., are not possible without the computers.

IT in banking

- Computer is an essential part of the modern banking system. Every activity of a bank is now online. The customer's data and transactions are recorded by computers.
- Recurring deposits (e-RD), Fixed deposits (e-FD), money transfer from one account to another (NEFT, RTGS), online transactions are done using Internet.
- Capital market transactions, financial analysis and related services are available in online platforms. Bank customers use Automated Teller Machines (ATM) for cash deposits and withdrawal, or to view current balance.

IT in insurance

- Insurance companies keep all records up to date with the help of computer database.
- Procedures for continuation of policies, starting date, date of next instalment, maturity date, interest dues, survival benefits, and bonus are declared by using computers in insurance companies.
- Many online policies are also available which can be purchased by using the website of insurance companies.

IT in marketing

- In marketing, computers are used for advertising of products, by using arts and graphics facility it is possible to create interesting advertisements of various products so that the goal of selling can be achieved. Using e-commerce websites, people can purchase items even sitting at home.

HOME ASSIGNMENT

1. Which software are used in digital communication?
2. For what purpose is IT used in business?
3. Which are the prominent areas where IT is used in science and engineering?
4. List the various uses of IT in a banking system.
5. What are the uses of IT in insurance and Marketing

IT in health care

- ICT is used in the health sector in numerous ways. Hospital Management System is used to maintain and manage patients' records as well as various activities pertaining to hospital administration.
- The computerised machines are used for ECG, EEG, Ultrasound and CT Scan. The variety of measuring instruments and surgical

equipment are used to monitor patients' conditions during complex surgery. Expert system is used for diagnosis.

- **(a) Use of ICT in diagnosis**

- With the advancements in computer hardware and software technology, various high-tech machines are used in the diagnosis and treatment of critical diseases. Using expert system, diseases can be diagnosed at the early stages and the patients can be given treatment accordingly. Some of these machines are:

- **(i) Computerised Axial Tomography Machine (CAT):** Using this machine three-dimensional (3D) images of different parts of the body can be made. These images are helpful in the diagnosis of diseases

- **(ii) MRI (Magnetic Resonance Imaging Machine):**

MRI machines are used to give the digital impression of internal organs of the body by using strong magnetic fields and radio waves. The digital images are very helpful in the detection and in deciding the treatment of diseases

- **iii) Electrocardiogram (ECG) Machine:** The

ECG machine is used to monitor the heartbeat. When the heart pumps blood to different parts of the body some electrical impulses are produced. This machine records the electrical impulses and shows it in the form of a graph.

- **(iv) Cardiac Screening Machine:** This machine displays the physiology of the heart and it displays the movements inside the heart. Through this machine it is possible to diagnose problems of the heart, such as thinning of veins and then recommend treatment.

(v) EEG (Electro - encephalography) Machine: This machine is used to record the activities of the brain. The small electrical probes attached to the head receive the electrical impulses of the brain and display them on a computer screen.

This device can retrieve the data in both states where a patient is awake or asleep.

(vi) Blood Sugar Testing Machine: This device analyses a sample of blood and determines the blood glucose level.

(vii) Blood Pressure Measuring Machine: This device which is worn as a wrist band can measure the blood pressure of a person at rest or when he/she is involved in some physical activity.

IT in the government and public service

- The government uses large-scale computer applications in its daily operations and is actively encouraging e-governance practices. Digital India and e-governance initiative of Government of India are best examples of this.
- Government and Non-Governmental Organisations (NGOs) as well as International Government Agencies use ICT applications to communicate and provide various services to the people and is called as e-governance.
- There are various official web portals of the Government of India for e-governance. There are various advantages of e-governance.

Home Assignment(long questions)

. Which are the different areas of healthcare where IT is used? And how?

. List any 5 websites of the Indian government which provide IT enabled services to the people

SESSION 1

Q1. What is IT?

Answer: Information Technology (IT) means creating, managing, storing and exchanging information. IT includes all types of technology used to deal with information, such as computer hardware and software technology, used for creating, storing and transferring information.

Q2. What is ITeS?

Answer: ITES stands for Information Technology Enabled Services. It includes a wide variety of operations which uses information technology to improve the efficiency of an organization.

Q3. Difference between IT and ITES.

Answer:

IT stands for Information Technology.

ITES is for information technology enabled services.

IT is the study of the design, management, development, implementation, and support of computer-based information systems, typically about computer hardware and application software.

ITES is part of IT. ITES Self means IT with enabled services. ITES is the study of outsourced service which has arisen due to involvement in various fields of IT such as banking and finance, BPO, call centres, etc

Q4. What is BPO?

Answer: BPO is business process outsourcing, which technically means giving your backend processes to another company (vendor) to perform on their behalf.

Benefits of BPO:

Financial Benefits: BPO often provides a business process at lower costs. They save the results from one organisation and use it for another organisation in one way for another. This saves money.

Flexibility: BPO provides great flexibility to changing market and needs adjusts to the environment.

Competitive advantage: BPO allows organizations to focus on their main targets and takes the processes that are not core to them and do it very professionally, efficiently and qualitatively in a competitive environment.

Risks of BPO

Security breaches: Organisations share regular and potential data with BPOs.

Relationship challenges: Organisations can face communication problems like what to share and what not to share with BPOs. Some critical information may be important to the BPOs to take a decision.

Q5. What is the role of BPO in the growth of Indian Economy?

Answer: The role played by BPOs in boosting India's economy shows that the IT and ITES sector have been contributing largely to the economic growth of India. The growth in the contribution of BPOs to Gross Domestic Product has shown a steady rise from 1.2% to 5.4%. It is hence evident that the BPO industry is making an impact on the Indian economy.

Q6. Multiple Choice questions:

I. _____ includes all types of technology used to deal with information.

- a. IT b. MRI c. None of these

Answer: a. IT

II. Computers works on the principal of input, _____ and output.

- a. Memory b. Processing c. None of these

Answer: b. Processing

Q7. Give some examples of fields where ITeS are used.

Answer: Customer Relationship Management (voice and non-voice services), Medical Transcription, Back Office Support, Software development, IT help desk services, business transformations, Finance / Account etc.

Q8. Give examples of some BPO services.

Answer: Some BPO services are : Financial and Accounting services, Taxation and Insurance services, E-Publishing and Web Promotion, Multimedia and design services, Document management services, Software testing services, Health Care services etc.

SESSION 2

Q1. What is BPM?

Answer: Business Process Management (BPM) is a process in which people use various methods to analyse, measure, improve and optimize the process. Sometimes people even end up discovering new business processes. The foremost aim of a BPM is to improve the corporate performance by managing the business processes.

School management system is a good example of BPM.

Q2. What is the life Cycle of BPM?

Answer:

- Design: Break the process into multiple tasks.
- Model: Model it using suitable BPM software.
- Execute: Execute the processes or put a system in place.
- Monitor: Monitor and analyse the system.
- Optimize: Make change to the process to improve it.

Q2. What are the categories of BPM?

Answer: Categories of BPM are as follows:

Integration Centric BPM: An Integration Centric BPM is a fully integrated approach to building and promoting desktop and Internet applications. It is used when there is a need for BPM and the service-oriented architecture. It conveniently updates the applications and can also monitor the varying market conditions.

Human Centric BPM: It is an approach that focuses on the tasks, activities and human skills in process, to create other automated functions to support these human actions.

Document Centric BPM: It is a process that is inclined towards the document management. It has very little to do with people or processes. This type of BPM services is generally used for routing, collaborating or approving documents.

Q3. What is the structure of the IT-BPM industry?

Answer: The structure of the IT-BPM industries are as follows:

Sector the organization is serving.

Type as well as range of offering the organization provides.

Geographic spread of operations.

Revenues and size of operations.

Q4. What are MNCs. Give one example.

Answer: A Multinational Company (MNC) generally has offices and/or factories in different countries and a centralized head office where they coordinate global management.

Q5. What are Indian Service Providers?

Answer: Their headquarters are mostly in India and they operate in other countries. They have main focus on Indian customers.

Example: Reliance.

Q6. Multiple Choice Questions:

- I. BPM stands for _____
 - a. Business Process Market
 - b. Business Process Management
 - c. None of these

Answer: b. Business Process Management.

- II. _____ organizations cater the needs of their parent company only and do not serve external clients.
 - a. GIC
 - b. MNCs
 - c. ISPs

Answer: a. GIC (Global In-house Centres)

SESSION 3

Q1. Write the uses of MRI machine.

Answer: MRI (Magnetic Resonance Imaging Machine) machine are used to give the digital impression of internal organs of the body by using strong magnetic fields and radio waves. The digital images are very helpful in the detection and treatment the diseases.

Q2. What is e-governance?

Answer: Electronic governance or e-governance is the application of information and communication technology (ICT) for delivering government services, exchange of information, communication transactions, integration of various stand-alone systems between government to citizen (G2C), government-to-business (G2B), government-to-government (G2G), government-to-employees (G2E) as well as back-office processes and interactions within the entire government framework.

Q3. How is ICT used in classroom?

Answer: There are many ways in which ICT is used in a classroom, such as:

- Smart classes
- Presentation with animation and text
- Experimental videos
- Simulations
- Images as Teaching Learning materials
- Desktop publishing for magazines, letters and newspapers.
- Educational games.

Q5. Explain the contribution of IT in education.

Answer: Using IT the teachers can create interesting audio and visual presentations which will keep the students engaged and will give them a greater understanding of all the concepts. Using Information Technology, the whole classroom can be digitalised thus making both teaching and process of learning much easier.

Q6. Explain the use of IT in library.

Answer: IT makes library work easier, faster, cheaper and more effective. Helps to manage information overload as information retrieval is made easier in computerized systems. Computerization saves space and reduces paper.

Q7. Explain the significance of IT in business.

Answer: IT is used in business to prepare a budget, management, payroll preparation, financial decision making, stock management, online sale and purchase of things. We can see product details or the demonstration online, pay online and product will be delivered to our doorstep. The number of goods can also be managed by computers.

Q8. Briefly explain different ways in which IT is used in healthcare services.

Answer: IT used in healthcare sectors in many ways. Hospital Management System is used to maintain patient's records, patient's admissions, patient's billing, patient's discharge report etc. The computerized machines are used for ECG, EEG, MRI, Ultrasound and CT scan, Nowadays, robots are used for operations.

Use of IT in diagnosis: High tech machines are used to treat critical diseases. Diseases like cancer are treated with computer aided machines.

Computerized Axial Tomography (CAT) Machine: 3D images of different parts of the body can be taken by using this machine. These images are helpful in the diagnosis of many diseases.

MRI (Magnetic Resonance Imaging Machine): MRI machine are used to give the digital impression of internal organs of the body by using strong magnetic fields and radio waves. The digital images are very helpful in the detection and treatment the diseases.

Electrocardiogram (ECG) Machine: Hearts pumps blood to different part of the body, this produces some electrical impulses. ECG machine records these electrical impulses and shows it in the form of graph.

Cardiac Screening Machine: The physiology of heart and the movements inside heart can be seen by using this machine. Many problems likes thinning of veins can be diagnosed and treated using this machine.

Blood sugar testing devices: Now we can test the level of glucose in a person's blood where sample can be taken on a strip and tested on a machine.

Blood pressure measuring machine: Blood pressure can be checked from wrist band which can be worn on the wrist and a device attached shows blood pressure.

Q9. Write a short note on the following:

IT in Science and Engineering:

Answer: Science needs precision in calculations which are very complex. Scientists use Computer Aided Design (CAD) for drawing 3D objects and used Computer Aided Manufacturing (CAM) for showing result. The result can be drawn, designed and tested. Result can be printed on a paper or can be saved for future use. 3D visualization is possible because of computer. Complex scientific applications like rocket launching. Space exploration etc. are not possible with the use of computers. Robots are excellent gift of science and technology.

Q10. Multiple choice questions:

- I. Which of the following shows the use of computer at home?

- a. Watching movies b. Treatment of diseases c. None of these

Answer: a. Watching movies.

- II. _____ machine is used to monitor the heartbeat.
a. MRI b. ECG c. None of these

Answer: b. ECG

- III. ATM stands for _____
a. Automated Teller Machine
b. Automatic Transaction Machine
c. None of these

Answer: a. Automate Teller Machine

- IV. Which of the following scenarios can be overcome by using BPM?
a. Less errors b. Time wastages c. None of these

Answer: a. Less errors

Q11. What is LMS (Learning Management System)?

Answer: Learning Management System is a software-based platform where audio, video lectures and assignment is provided online in which, we can attend classes, takes exams and see the results while sitting at home. We can also participate in co-curricular activities online. Even parents can view or monitors our report online.

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