H·W
3/9/21

classmate
Date
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WORKSHEET

Q1- Choose the correct answer out of the four available choices given below each question. [1×15=15 marks]

1- Who coined the term 'cell'?
(a) Matthias Schleiden
(b) Theodor Schwann
(c) Charles Darwin
(d) Robert Hooke ✓

2- Which connects the pharynx to the stomach?
(a) Large intestine
(b) Oesophagus
(c) Caecum
(d) Small intestine

3- Transpiration is a function of the
(a) Leaves
(b) Stem
(c) Flower
(d) All of these

4. Which of the following is not good for the eyes?
(a) Eating vegetables

(b) Looking at the Sun directly
(c) Washing your eyes with cold water
(d) Taking breaks while working on a computer.

5. Oxygen and Carbon dioxide are exchanged at the Alveoli
(a) Nasal Cavities
(b) Trachea
(c) Pharynx
(d) Alveoli

6. Which of the following refers to the intial U-letter shaped part of the small intestine?
(a) Jejunum
(b) Ileum
(c) Deodenum
(d) Caecum

7 - Vacuole is a watery sac bounded by a membrane termed as Tonoplast.
(a) Tonoplast
(b) Chromoplast
(c) Centriole
(d) Crictae

8. The outermost part of a rose flowers is
(a) Sepals
(b) Petals
(c) Stamen
(d) Style

9. Which of the following is the main source of energy?
(a) Proteins
(b) Minerals
(c) Vitamins
(d) Carbohydrates

10. Which of these connects the leaf to the stem?
(a) Lamina
(b) Veins
(c) Midrib
(d) Petiole

11. What is the shape of the trees found on the mountains?
(a) Rod (d) Straight
(b) Spiral
(c) Cone

12. What is the function of tail in fish?
(a) Swimming
(b) Changing directions
(c) Respiration
(d) Protection

13. The corolla is made up of units called
(a) Sepals
(b) Petals
(c) Stamens
(d) Style

14. In plant cells, which of the following organelles has smaller units called dictyosomes?
(a) Cytoplasm
(b) Cell wall
(c) Golgi apparatus
(d) Centrosome

15. During Photosynthesis, plants give out
(a) Carbon dioxide
(b) Oxygen
(c) Nitrogen
(d) Carbon monoxide

Q2-A Name the following:

1- The organelle which digests old or injured parts of it's own cell. Lysosome
2- A thin, sticky film composed of mucous, food particles, and bacteria, which develops on the surface of the teeth over a period of time. Plaque
3- The pattern of arrangement of veins on a leaf. Venation
4- The surface of a tooth. Buccal
5- Tiny openings found on the lower side of the leaf for the exchange of gases. Stomata

Q2-B Fill in the blanks:

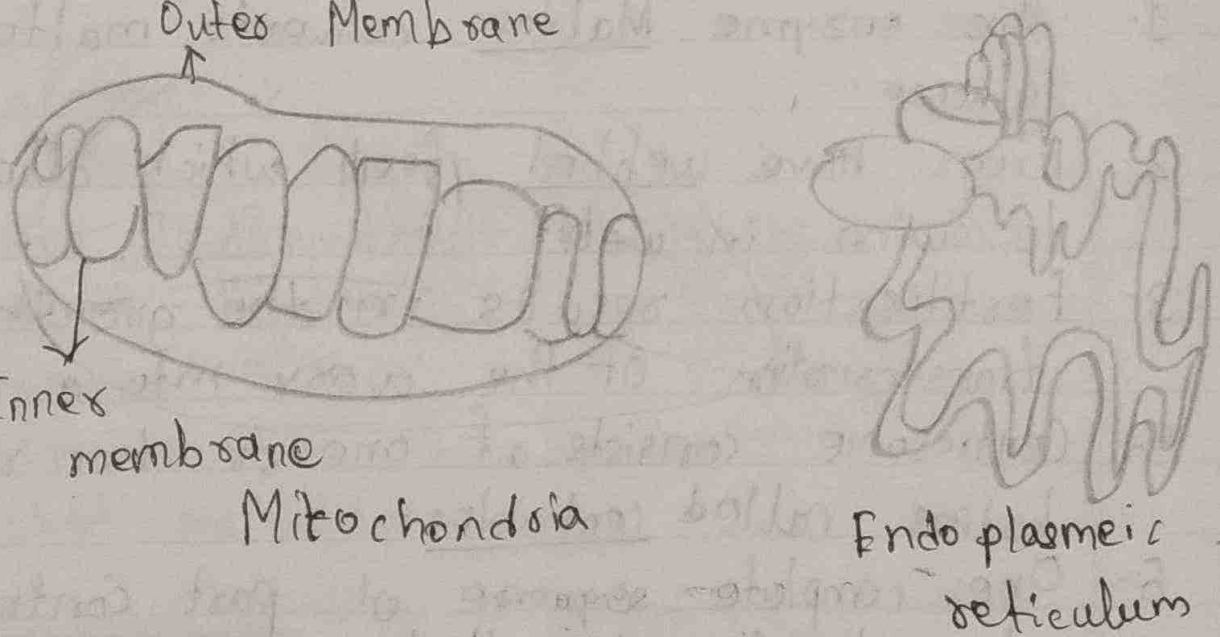
1- The enzyme Maltase converts maltose into glucose.
2- Frogs have webbed feet which allow them to swim in water.
3- Fertilisation results in the growth and transformation of the ovary into a fruit.
4- Centrosome consists of one or two rod-like bodies called centrioles.
5- One complete sequence of part contraction and relaxation is called cardiac cycle.

Q3-A Match the following:

Column A	Column B
1. Chloroplast	a) Converts starch into maltose
2. Cell Membrane	b) Converts peptones in to amino acids
3. Ribosome	c) Manufacture of food in plants
4. Amylase	d) Synthesis of proteins
5. Erepsin	e) Entry and exit of materials

Ans = 1-c, 2-e, 3-d, 4-a, 5-b

B- With the help of a suitable diagram explain the structure and function of the mitochondria and the endoplasmic reticulum.



About Mitochondria

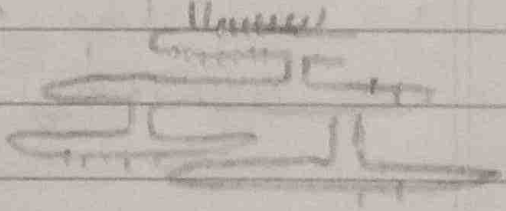
→ Those are the double walled envelope where cellular respiration occurs.
→ This is a rod like shape organelle that is considered the power generators of the cell.
→ It is bounded by inner and outer membrane.

Functions

→ Mitochondria is the site of respiration.
→ It releases energy in the form of ATP. (Adenosine Triphosphate)
→ It use a glucose in oxygen to produce energy.

About Endo plasmic Reticulum

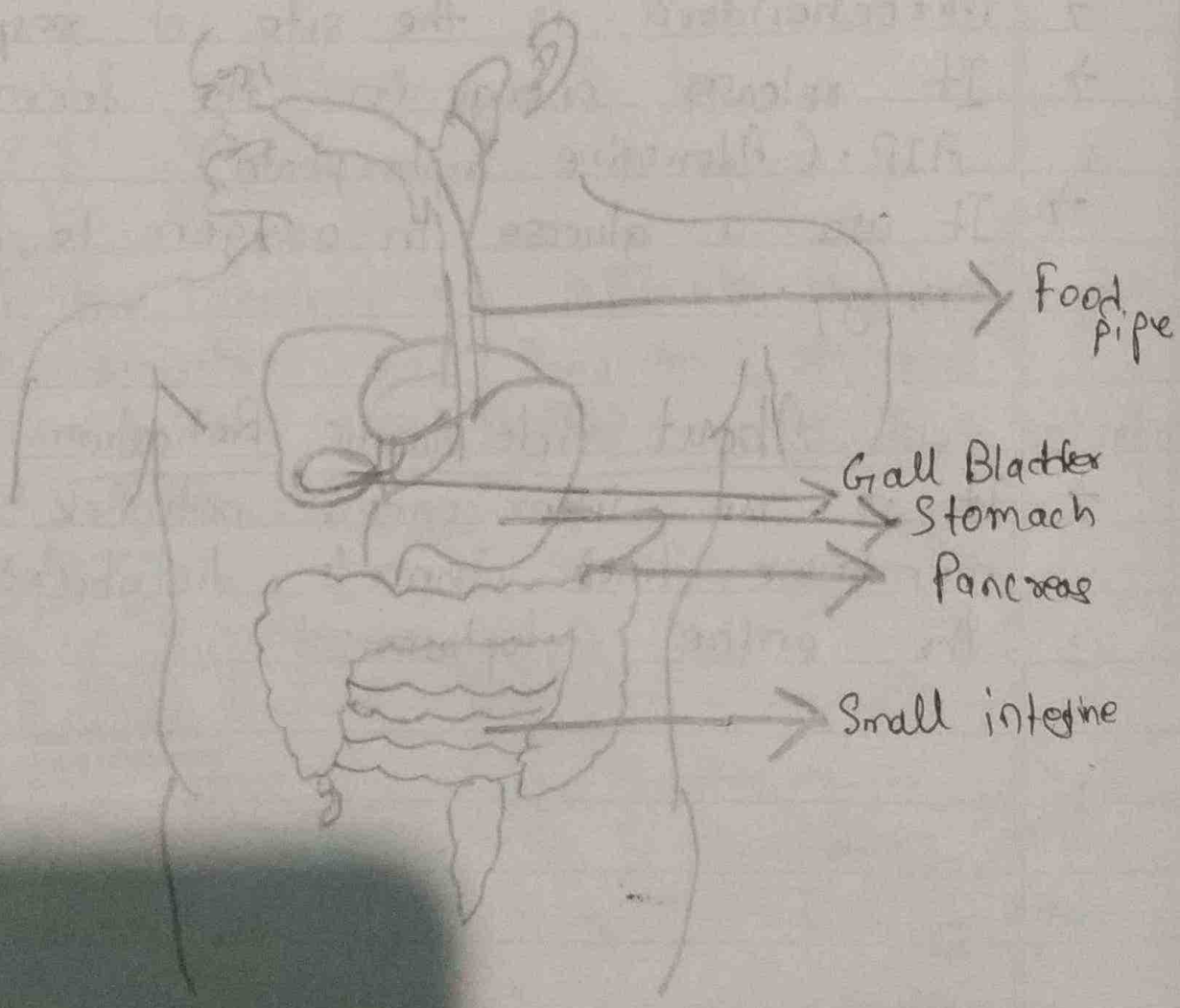
→ It is an inter-conned network of double membrane lined channels distributed over the entire cytoplasm.



Functions of Endoplasmic reticulation

- Its function is to produce proteins for the rest of the cell to function.
- It gives rigidity to the cell.
- It also provide internal support to the cell.
- It serves as a pathway for the distribution of materials within a cell and between two cells.

Q4. B. Label the parts in the given diagram. [5]



A- Why is seed dispersal important? Explain the different methods of seed dispersal. [5]

Ans- If plants grow too close to each other, they will not get enough space, air, water, minerals and sunlight. Under these conditions, they cannot grow into healthy plants. Since a plant produces a large number of seeds, nature has provided means of scattering the seeds far and wide so that crowding is reduced.

The scattering or dispersal of seeds away from the parent plant is called seed dispersal. Fruits and seeds are scattered with the help of wind, water, animals and explosion of fruit. These are called agents of dispersal.

Wind Dispersal

- Seeds that are scattered by wind are usually small and light.
- Dandelion and cotton seeds have long and fine hair surrounding them. This makes it easy for the wind to carry the seeds away.
- Some seeds, such as maple and drumsticks have wings attached to them, which help them float in the air.

Water Dispersal

- Seeds of plants that grow in or near flowing water may be dispersed by water.
- These plants have fruits and seeds that can float in water. Ex- water lily, lotus and coconut.
- The coconut fruit has air trapped in between its husk. This makes it light and easy to float.
- Water carries these fruits and seeds to far-off places.

Animal dispersal

- Suppose we are eating a mango. After eating, we throw the seeds away. This is one of the way of helping plants to disperse their seeds.
- Birds and animals also eat seeds along with fruits. The seeds are small and hard and they come out of the body as waste, ready to grow.
- Some seeds have stiff hair, spines or hooks-like structures which sticks to our clothes or bodies of animal, is carried off long distances.

Q5. A. 1- How is cactus adapted to survive in a desert?

Ans- It is in the following ways:

- Cactus store water in their fleshy tissues and depend on this stored food for photosynthesis.
- The leaves of cacti are reduced and are in the form of spines.
- It has long roots which go deep down into the soil for absorbing water.

2. Why does mountain goat has strong hooves?

Ans - It is so because for running up on rocky slopes of the mountain.

B. Find the odd one out.

1. Typhoid, Diphtheria, Tetanus, Measles

Ans - Measles

2. Dengue, Conjunctivitis, Chicken pox, Measles

Ans - Conjunctivitis

3. Rose, neem, acacia, Mango

Ans = Mango

4. Night Blindness, Beriberi, Diabetes, Pellagra

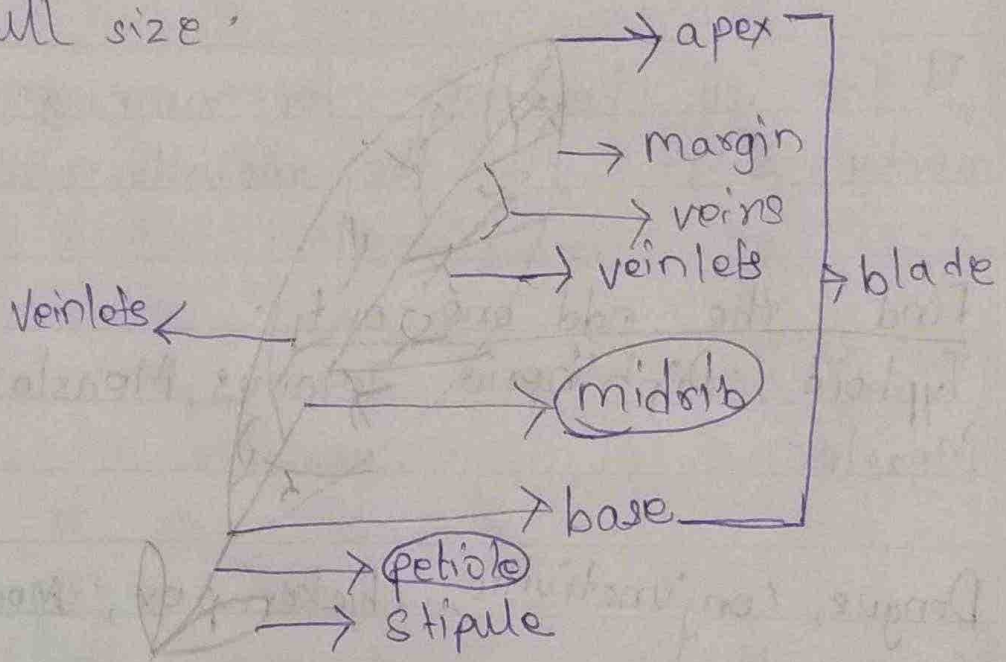
Ans - Diabetes

5- Cell wall, Mitochondria, Cytoplasm, Cell membrane

Ans - Cell wall

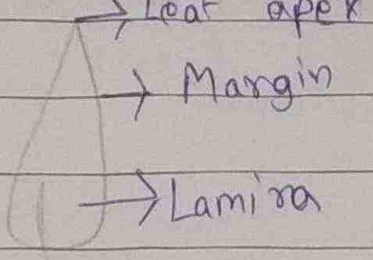
Q6. A- Describe the structure and functions of leaves.

Ans - The flat and green parts of the shoot that grow laterally from the nodes of the stem are called leaves. Leaves don't continuously but stop growing on attaining full size.



Lamina or leaf blade

It is thin, flat and expanded part of a leaf.



Leaf stalk or Petiole

It is the short cylindrical part of a leaf. It attaches laming to the stem.

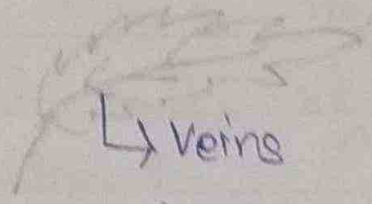
> Sessile leaves - leaves that do not have a petiole. They directly arise from leaf base.

Midrib

It is the thickened vein along the centre of a leaf. It extends from petiole to the tip of leaf.

Vein and Veinlets

The various lateral branches arise from midrib are known as veins.



↳ Veins

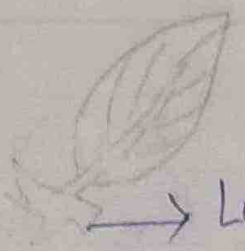
Veins further branch out to form veinlets.

(Function of Petiole, Midrib, Veins and veinlets is to)

- Transport water from stem into the leaves
- Transport food prepared in the leaf to the stem.

Leaf base

It is a small, slightly swollen part at the end of the petiole.



→ Leaf base

Functions of Leaf

- Photosynthesis
- Gaseous exchange
- Transpiration

Photosynthesis

It is a process in which green plants make their own food with the help of sunlight, water, carbondioxide and chlorophyll.

- Food is prepared by Green Leave.
- Leaf is green due to a pigment known as chlorophyll.

→ Sunlight, CO_2, H_2O & chlorophyll are raw materials required by photosynthesis

Carbondioxide + Water $\xrightarrow[\text{Chlorophyll}]{\text{Sunlight}}$ Glucose/Food + Oxygen

$$CO_2 + H_2O \xrightarrow[\text{Chlorophyll}]{\text{Sunlight}} C_6H_{12}O_6 + O_2$$

Gaseous Exchange

- Geoseous changes in plants takes place through stomata. (minute poroe)
- Air enters the plant through these openings
- They remain open during day and closes at night.
- During photosynthesis, plant take carbondiaide through stomata and releases oxygen through the same.

Transpiration

- It is a process in which plant loses excess water in the form of watervapour through stomata.
- It keeps the plant cool.

B- Define the following terms:

1- Egestion

Ans - The process of eliminating the undigested food through the anus is called egestion.

2. Breathing

Ans - The process during which the air containing oxygen is drawn into the lungs and the air containing carbondioxide is forced out from the lungs is called breathing.

3. Internodes

Ans - The part of the stem between two successive nodes is called an internode.

4. Plaque.

Ans - A thin, sticky film composed of mucous, food particles and bacteria, which on the surface of the teeth over a period of time is knowns as Plaque.

5. Bisexual flower

The flowers having both female and male (gynoecium and androecium) is called bisexual or hermaphrodite flowers.

Q7. iii) Explain the modifications of leaf?

- Leaf tendril-

- A long thin plant that from a climbing plant.
- It looks like thread and is used by climbing plants for support and to fasten itself to a wall, stick etc. It can be photosynthesize.
- Ex- Money plant, pea plant etc.

Leaf spines

- Here, the leaves are modified into spines to reduce water like cactus.
- It gives the plant protection from grazing animals.
- It also prevents transpiration.
- Ex- Cactus, Prickly poppy

Scale leaves

- Sometimes, leaves get modified into scale to perform certain functions like
  - Protecting buds
  - Storing food and water.
- Ginger has thin scale leaves and Onion has thick scale leaves.

Q7. B. State the importance of transpiration.

Ans - • If the water is not evaporated, then the plant would not get proper nutrients.