

1. One Mark Questions

Multiple Choice Questions

1. Who coined the term 'cell'?

Ans - d) Robert Hooke

2. Which of the following connects the pharynx to the stomach?

Ans - b) Oesophagus.

3. Transpiration is a function of the

Ans - a) Leaves

4. Which of the following is not good for the eyes?

Ans - b) Looking at the Sun directly

5. Oxygen and Carbon dioxide are exchanged at the

Ans - d) Alveoli

6. Which of the following refers to the initial U shaped part of the small intestine?

Ans - c) Duodenum

7. Vacuole is a watery sac bounded by a membrane formed as

Ans - a) Tonoplast

8. The outermost part of a rose flower is

Ans - a) Sepals

9. Which of the following is the main source of energy?

Ans - a) Carbohydrates

10. Which of these connect the leaf to the stem?

Ans - d) Petiole

11. What is the shape of the trees found on the mountains?

Ans- c) Cone

12. What is the function of tail in fish?

Ans- b) Changing directions

13. The Corolla is made up of units called

Ans- a) Sepals

14. In plant cells, which of the following organelles has smaller units called dictyosomes?

Ans- c) Golgi apparatus

15. During Photosynthesis plants give out

Ans- b) Oxygen

Fill in the blanks

16. The enzyme maltase converts maltose into glucose.

17. Frogs have webbed feet which allow them to swim in water.

18. Fertilisation results in the growth and transformation of the ovary into a Fruit.

19. Centrosome consists of one or two rod like bodies called centrioles.

20. One complete sequence of part contraction and relaxation is called Cardiac cycle.

2 mark Question

21. Name the following.

- The organelle which digests old or injured parts of its own cell. **Lysome**
- 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**
- The pattern or arrangement of veins on a leaf. **venation**
- The surface of a tooth. **Enamel**

22. Match the following.

Column A

1. Chloroplast
2. Cell membrane
3. Ribosomes
4. Amylase
5. pepsin

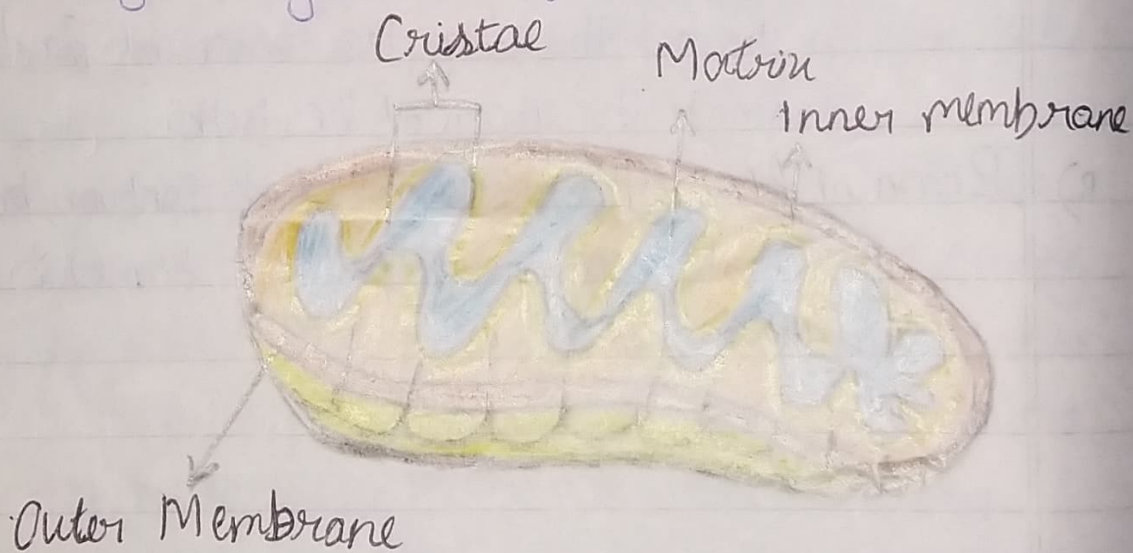
Column B

- a. Converts starch into maltose
- b. Converts peptides into amino acids
- c) Manufacture of food in plants
- d) Synthesis of proteins
- e) entry and exit of materials.

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

Ans- Structure of the mitochondria:

1. Mitochondria are oval or rod-shaped structures found scattered throughout the cytoplasm.
2. They are surrounded by a double membrane.
3. The inner membrane has folds called cristae which help to increase its surface area.
4. On the walls of cristae, food combines with oxygen to produce ATP (Adenosine triphosphate) which is the primary energy source of the cell.

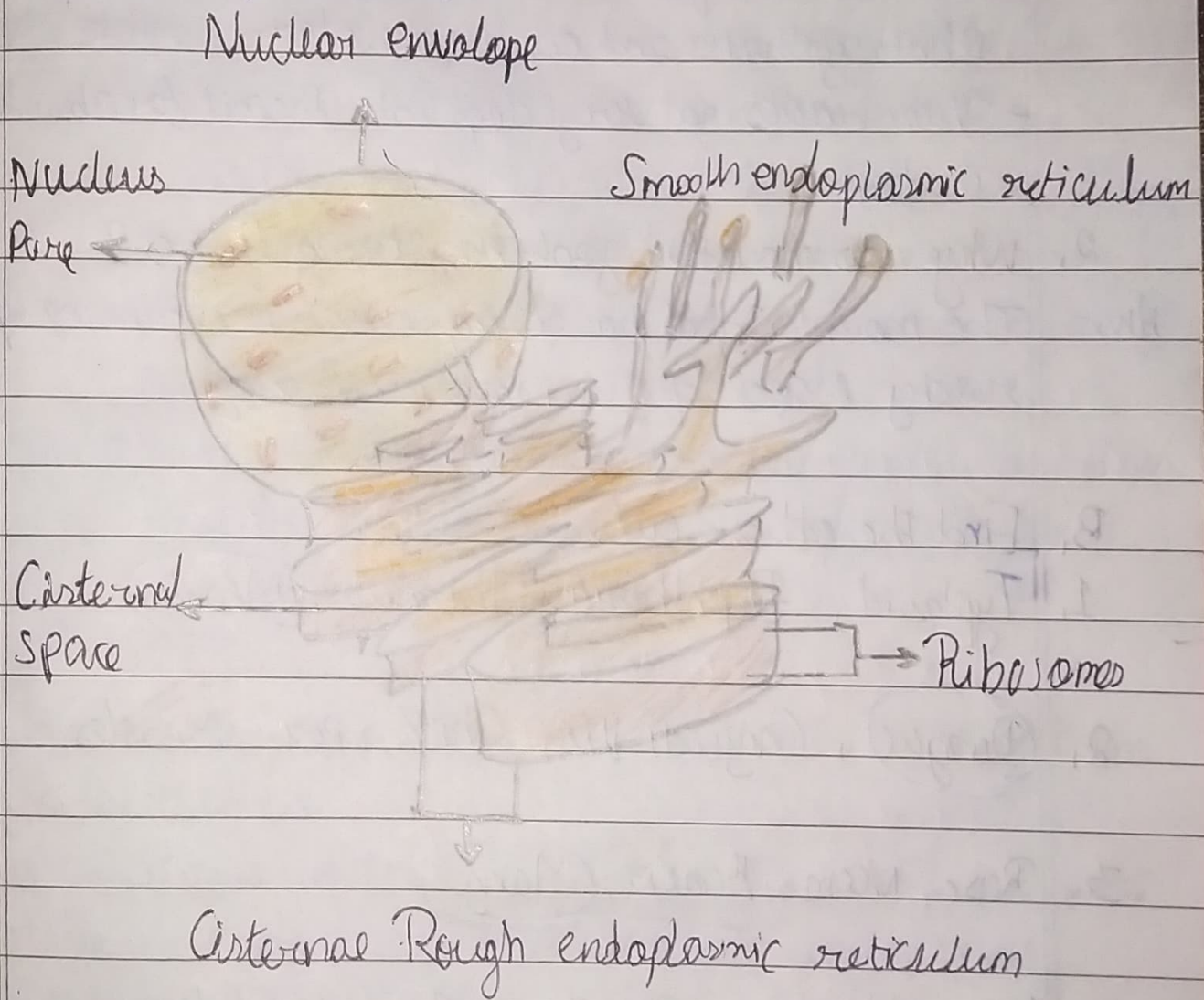


Functions of mitochondria:

- i) Mitochondria are termed as the power houses of the cell.
- ii) They convert the chemical energy stored in food into readily usable biological energy.

Structure of endoplasmic reticulum:

1. endoplasmic reticulum consists of a series of ~~thick~~ membrane-bound tubes and chambers within a cell.
2. It's rough appearance is due to the presence of a large number of ribosomes.



Functions of endoplasmic reticulum:

1. The basic function of the endoplasmic reticulum is to store fats and proteins and it also serves as the cell's transport system.

27, Why is seed dispersal important? Explain the different methods of seed dispersal.

Ans- If all the seeds had to germinate in the ~~same~~ same place, there would be an unhealthy competition for the food and light between the plants. Thus, seed dispersal is important which scatter the seeds far and wide.

i) Dispersal by explosion:- Fruits of plants like pea, bean, Castor etc burst to open once they are ripe, thereby scattering the seeds in all directions. This mechanism is also referred as 'explosion'.

ii) Dispersal by Wind:- Seeds of certain plants develop with wings - like hairy structures which allow them to be carried away by the wind. Once mature and dry they burst open and release seeds, which are dispersed by wind. Examples - Moringa (drum stick) Calotropis (milk weed), etc.

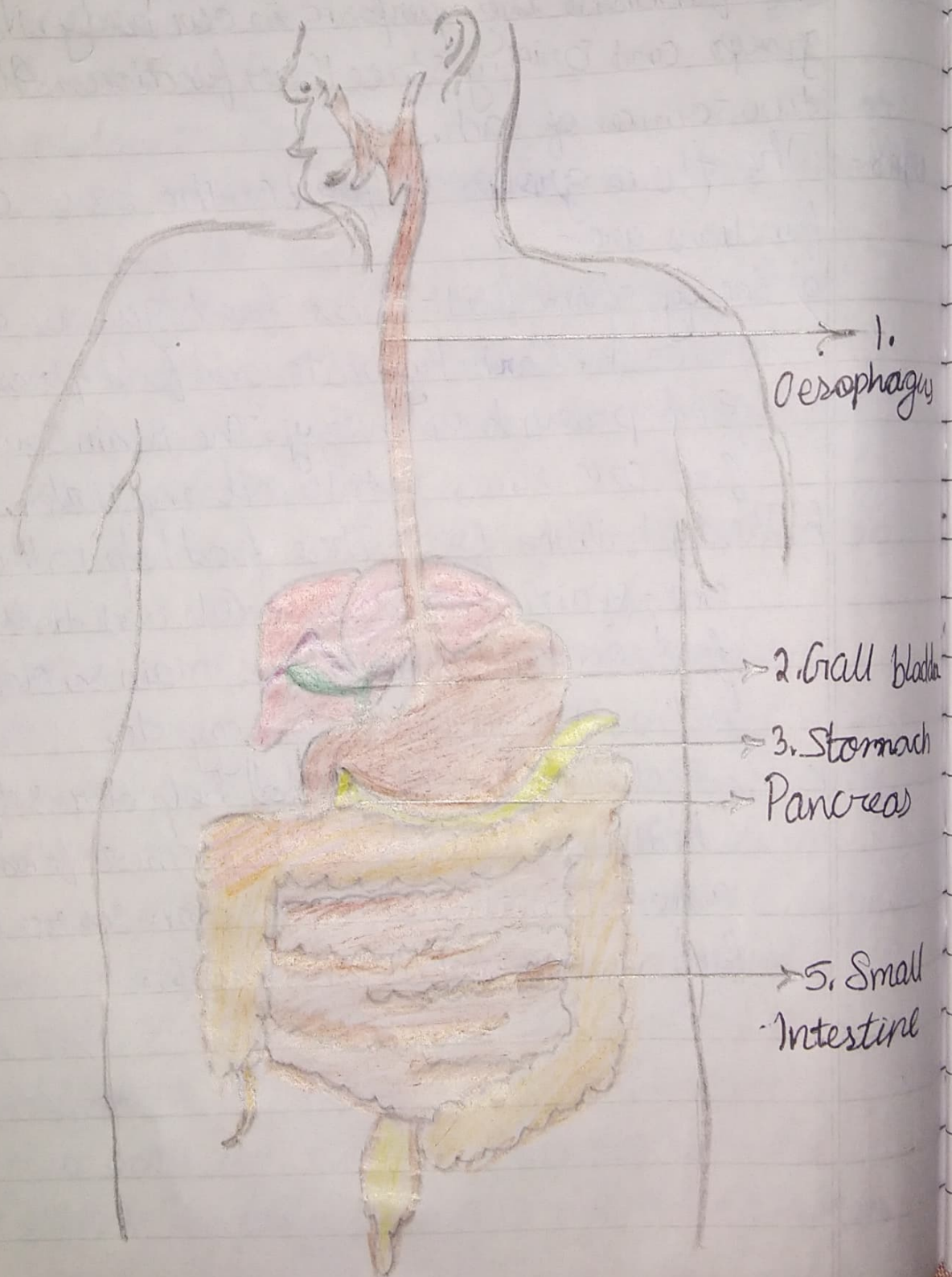
iii) Dispersal by animals:- Certain birds eat fruits like tomato, guava, chilly along with their soft parts. Since these seeds are hard and thick, they escape digestion and are passed out with their droppings. Fruits of plants like Xanthium and Urena are covered with tiny hooks and those of spear grass have stiff hairs. When ripe and dry, they cling to the bodies of passing animals or to the clothing of humans and get transported over great distance.

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iv) Dispersal by water:- Plants which grow along the coastal regions like coconut tree produce fruits that float in water and hence get transported by the waves. The fruit is protected by a waterproof outer covering.

28. 5 mark Question.

28. Label the parts in the given diagram.



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

Ans- Cactus are adapted to survive in a desert as they have:

- No leaves or have spiny leaves to prevent water loss through transpiration.
- Stem is modified in such a way that it performs photosynthesis and conserves water.
- Their roots go very deep into the soil for absorbing water.

2. Why does mountain goat has strong hooves?

Ans- The mountain goat has strong hooves for running up the rocky slopes of mountains for grazing.

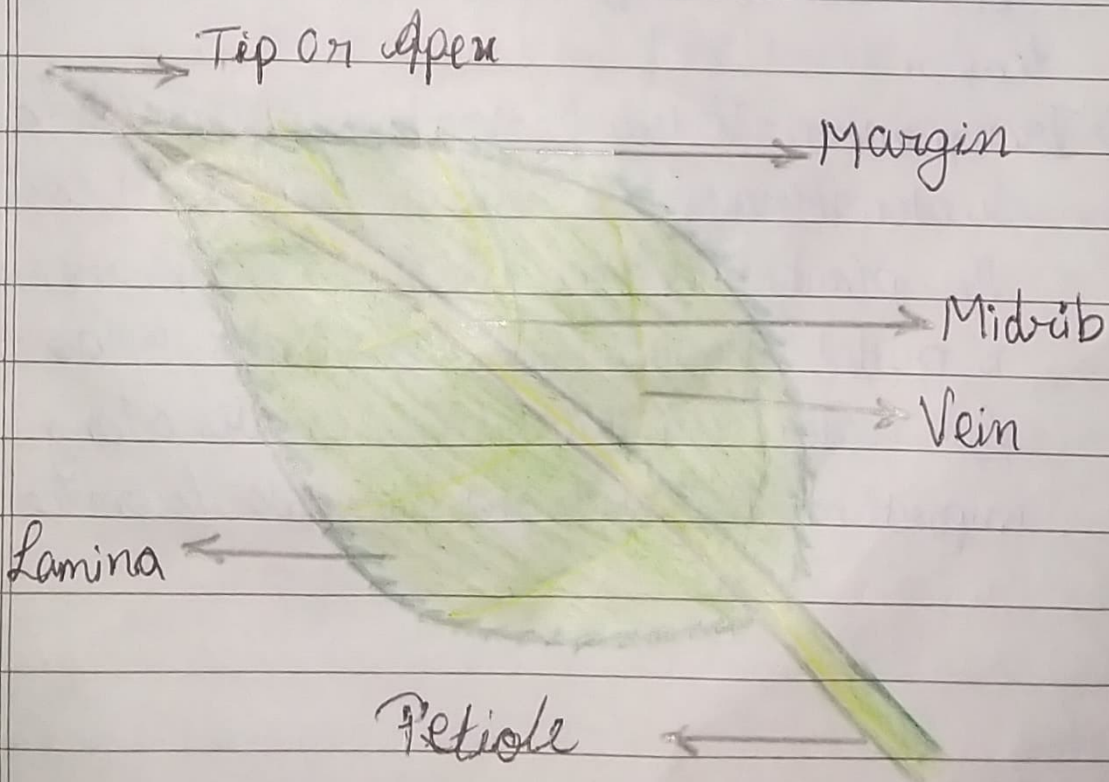
B. Find the odd one out.

1. Typhoid, Diphtheria, Tetanus, Measles
2. Dengue, Conjunctivitis, Chicken pox, Measles
3. Rose, Neem, Acacia, Mango
4. Night blindness, Beri-beri, Diabetes, Pellagra
5. Cell wall, Mitochondria, Cytoplasm, Cell membrane

29. Describe the structure and functions of leaves.

Ans- The structure of a leaf -

- i) Lamina - It is the flat green portion of the leaf and is also known as the leaf blade.
- ii) Veins - They form a supporting framework and transport raw materials and manufactured food in and out of the lamina.
- iii) Petiole - It is a narrow, stalk-like structure connecting the leaf to the stem.
- iv) Midrib - It is the continuation of the petiole and the central vein of the leaf. Smaller veins grow from the midrib.



Structure of a leaf

The functions of leaves are -

i) Manufacturing of food - The pigment, chlorophyll present in leaves gives the green colour to them. This green pigment helps plants to absorb energy from sunlight and use it to manufacture food from carbon dioxide and water. This process is termed as photosynthesis.

ii) Exchange of gases :- During the daytime, plants take in carbon dioxide and give out oxygen and during the night oxygen is taken in and carbon dioxide is given out. This exchange of gases takes place by means of small openings called stomata which are present in the lower surface of the leaves.

iii) Transpiration :- It is a process by which plants lose water, through the stomata. It helps in cooling the plant. Also since water is lost, more water is pulled upwards from the roots to replace the lost water. This pulled water carries along important nutrients and minerals from the roots.

30. Define the following terms

- a) Egestion: Egestion, also called defecation, is the process of removal of ~~waste~~ undigested food materials left behind after the process of absorption is complete.
- b) Breathing: Breathing is a physical process of inhalation and exhalation of gases, which occurs outside the cells, with no release of energy during the process.
- c) Internode: - The space between two adjacent nodes is called an internode.
- d) Plaque - Plaque is a thin, sticky, transparent film which forms on the surface of the teeth due to germs in the mouth along the saliva and food particles, leading to the decay of the tooth.
- e) Bisexual flower - A flower which contains both male and female reproductive parts is termed bisexual flower.

7. A. Answer the following in brief.

1. Explain the modifications in the leaf.

Ans- Some modifications in the leaf are -

i) Spines :- Spines are modified leaves, which helps to reduce water loss.

ii) Tendrils :- In case of certain weak stemmed plants the leaves or leaflets are modified into wiry, coiled structures. These are called tendrils. They are sensitive to touch. As they touch any object they coil around it and support the plant to climb up.

Example : Sweet pea.

iii) Scale leaves :- Some plants like onion ginger have thin and dry or thick or fleshy scale leaves. Their function is to protect the buds.

2. Mention any two adaptations in birds which help them to fly in air.

Ans- Adaptations in birds which help them to fly in air :

- Boat-shaped or streamlined, light weight body
- Hollow and light bones

B. Answer the following.

1. Snow leopard shows the presence of rounded body, small ears and big feet. How do these adaptive features help the animal to survive in mountains regions?

Ans- In case of snow leopards, the rounded body and small ears help to minimise the body surface area. This reduces heat loss from the body.

- The animal has big feet to spread its weight on snow and prevent it from sinking into soft snow.

2. State the importance of transpiration.

Ans- Transpiration is the loss of water in the form of water vapour from the aerial parts of the plants.

Importance of transpiration:

a) It keeps the plant body cool.

b) When the leaves lose water through transpiration more water is pulled upwards from the roots by the xylem to replace the loss of water.

c) Transpiration also plays an important role in the transport of minerals since the pulled water from the roots also contains certain minerals.