

Homework

Q1. Choose the correct answer out of the four available choices given below each questions. (15)

1. Who coined the term 'cell'?

(a) Matthias Schleiden

(b) Theodor Schwann

(c) Charles Darwin

(d) Robert Hooke

A- (d) Robert Hooke

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

(a) Large intestine

(b) Oesophagus

(c) Caecum

(d) Small intestine

A- (b) Oesophagus

3. Transpiration is a function of the ~~leaves~~

- (a) Leaves
- (b) Stem
- (c) Flower
- (d) All of these

Ans- ~~(a) leaves~~ (d) All of the above

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.

A- (b) Looking at the sun directly.

5. Oxygen and carbon dioxide are exchanged at the _____.

- (a) Nasal cavities
- (b) Trachea

(c) Pharynx

~~(d) Alveoli~~

✓ A- Alveoli

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

(a) Jejunum

(b) Ileum

~~(c) Duodenum~~

✓ (d) Caecum

A- (c) Duodenum

7. Vacuole is a watery sac bounded by a membrane termed as Tonoplast.

~~(a) Tonoplast~~

(b) Chromoplast

(c) Centriole

(d) Cristae

A- (a) Tonoplast

(8) The outer most part of rose flower

is

- (a) Sepals
- (b) Petals
- (c) Stamen
- (d) Style

A- Petal

(9) Which of the following is the main source of energy.

- (a) Proteins
- (b) Minerals
- (c) Vitamins
- (d) Carbohydrates

A- (d) Carbohydrates

(10) Which of these connects the leaf to the stem?

- (a) Lamina
- (b) Veins
- (c) Midrib

(d) Petiole

A- (d) Petiole

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

(a) Rod

(b) Spiral

(c) Cone

(d) Straight

A- (c) Cone

12) What is the function of tail in fish?

(a) Swimming

(b) Changing direction

(c) respiration

(d) Protection

A- Swimming

13) The corolla is made up of units called Petals.

- (a) Sepals
- (b) Petals
- (c) Stamens
- (d) Style

A- (b) Petals

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

- (a) Cytoplasm
- (b) Cell wall
- (c) Golgi apparatus
- (d) Centrosome

A- Golgi apparatus

15. During photosynthesis plants give out Oxygen.

- (a) Carbon dioxide
 - (b) Oxygen
 - (c) Nitrogen
 - (d) Carbon monoxide
- Ans - Oxygen.

Question - 2

A- Name the following.

1. The organelle which digests old or injured parts of its own cell :

A- Lysozyme

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 or arrangement of veins on a leaf. (Stamina) (Venation)

4. The surface of tooth. (Enamel)

5. Tiny openings found on the lower side of the leaf for the exchange of gases. (Stomata)

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 resulting in the growth and transformation of the ovary into a fruit.
4. Centrosom consists of one or two rod-like bodies called Microtubule.
5. One complete sequence of part ~~of~~ contraction and relaxation is called Cardiac cycle.

Question 3

A. Match the following.

Column - A

Column - B

- | | |
|------------------|---------------------------------------|
| 1. chloroplast | A. Converts starch into maltose |
| 2. Cell membrane | B. Converts peptones into amino acids |
| 3. Ribosome | C. Manufacture of food in plants |
| 4. Amylase | D. Synthesis of proteins |
| 5. Pepsin | E. Entry and exit of materials. |

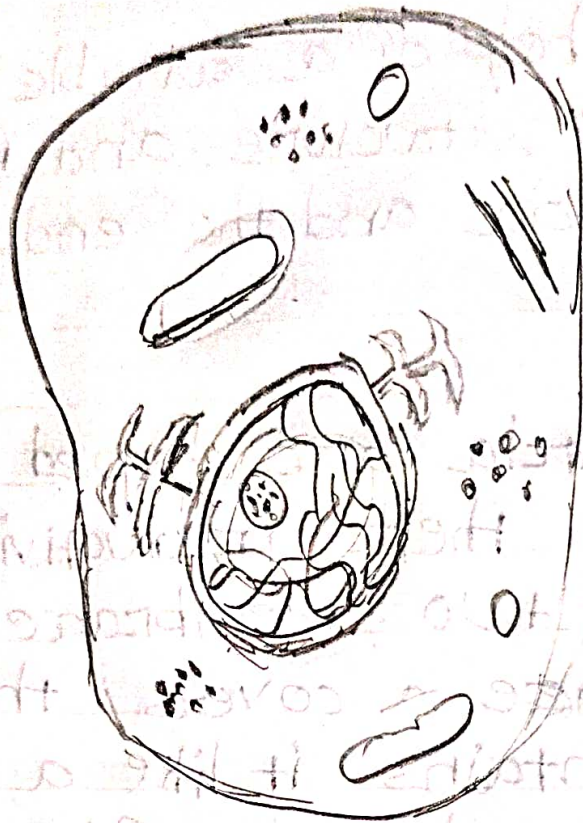
B. With the help of a suitable diagram explain the structure and function of the mitochondria and the endoplasmic reticulum.

A → Mitochondria are shaped perfectly to maximize their productivity. They are made of two membrane. The outer membrane covers the organelle and contains it like a skin. The inner membrane folded over many times and creates layered structures called cristae.

• Endoplasmic reticulum is a large dynamic structure that serves many roles in the cell including calcium storage, protein synthesis and lipid metabolism. The diverse function of the endoplasmic reticulum are performed by distinct domains, consisting of tubules, sheets and the nuclear envelope.

Question: 4

B -



Endoplasmic reticulum is a large structure that serves many roles in the cell including calcium storage & protein synthesis and lipid metabolism. The division of the endoplasmic reticulum are performed by distinct channels consisting of tubular sheets and the nuclear envelope.

Question 11

A: Why is seed dispersal important? Explain the different methods of seed dispersal?

- a-:
- Seed dispersal prevents the overcrowding of plants in an area.
 - Seed dispersal prevents the competition for water, minerals and sunlight among the same kind of plants.
 - Seed dispersal helps the plants to grow in new places for wider distribution.

The different method of seed dispersal are :

- Dispersal by wind : Light seeds or hairy seeds and hairy fruits get blown off with the wind to far away places.
Ex - Sunflower, Maple, Drumsticks etc.
- Dispersal by water : Fruits or seeds which develop floating ability in the form of spongy ^{or} fibrous.
Outer coat are carried away with to different places.
Ex - Coconut

- Dispersal by animals or birds: Spiny seeds with hooks which get attached to the bodies of animals and are carried to distant places. Also the fruits are eaten up by animals and birds and their seeds get dispersed to far away places.

Example: Xanthium, Urena, Mango etc.

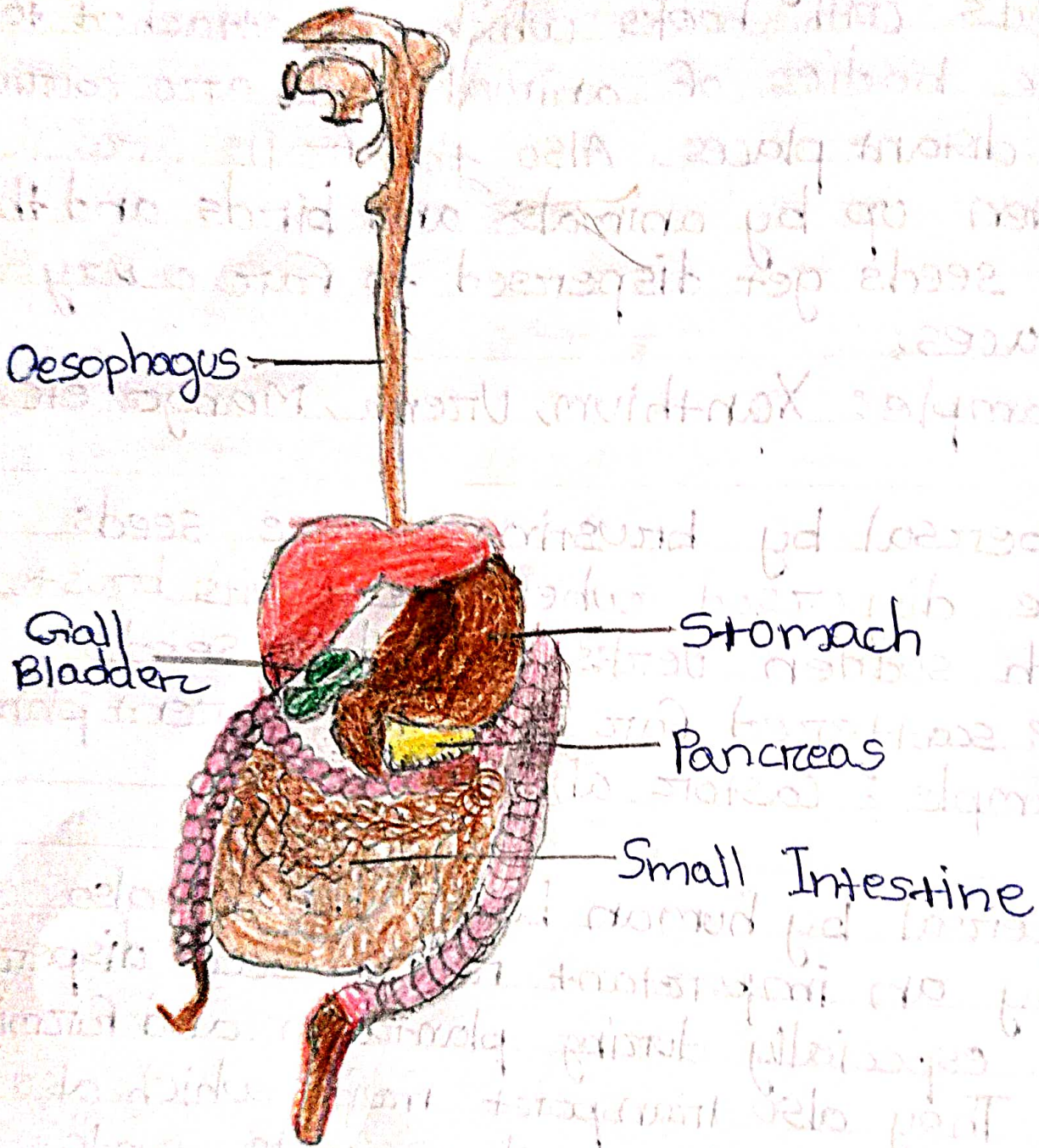
- Dispersal by bursting: Some seeds are dispersed when the fruits burst with sudden jerks and the seeds are scattered far from the parent plant.

Example: Castor and balsam

- Dispersal by human being: Humans also play an important role in seed dispersal especially during plantation and farming. They also transport fruits which also help in the dispersal of seeds.

B. Label the parts in the given diagram.

B.



Question 5

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

A- • A cactus is able to survive in the desert due to the following features:

- It has long roots that go deep inside the soil for absorbing water.
- Its leaves are in the form of spines to prevent water ^{loss} through transpiration.
- Its stem is covered with a thick waxy layer to ~~at~~ retain water.

2. Why does mountain goat has strong ~~hooves?~~ hooves?

A- • Mountain goats have strong hooves that help them to climb the rocky slopes of the mountains.

- They have small ears and nose to reduce

heat loss from the body.

B. Find the odd one out.

1. Typhoid, Diphtheria, Tetanus, Measles

A- Measles

2. Dengue, Conjunctivitis, chicken pox, Measles

A- Conjunctivitis

3. Rose, Neem, Acacia, Mango

A- Rose

4. Night blindness, Beri Beri, Diabeties, pellagra

A- Diabeties

5. Cell wall, Mitochondria, cytoplasm, cell membrane

A- Cell wall

Question 6

A. Describe the structure and function of leaves.

a- Leaf has the following parts:

- **Petiole**: The basal part of the leaf is a stalk called petiole. It is attached to the stem at the node.
- **Axillary bud**: An axillary bud is present in the axil of the leaf.
- **Lamina**: The green flat and broad part of the leaf is called Lamina or leaf blade.
- **Leaf margin**: Lamina outer edge is called Leaf margin.
- **Midrib**: Petiole continues into the lamina as the midrib. This laterally gives out fine branches called veins.

Petiol, Midrib, veins and veinlets conduct water and food.

B. Define the following terms.

1. Egestion

A- The process of eliminating the undigested food through the anus is called Egestion.

2. Breathing

A- The process during which the air containing oxygen is drawn into the lungs and the air containing carbon dioxide is forced out from the lungs is called Breathing.

3. Internodes.

A- The parts of the stem between two ~~successive~~ successive nodes is called an internode.

4. Plaque

A- The sugary or starchy foods that we eat get stuck to the teeth. This along with bacteria on the teeth's surface form a yellow coloured film called plaque.

5. Bisexual flower

A- Plants have flowers with both male and female reproductive parts, that is androecium and gynoecium. They are called ~~Bis~~ bisexual flowers.

Question 7

1. Explain the modification in the leaf.

A- Some modification of the leaf include:

- Leaf tendril: In case of certain weak stemmed plants leaves or leaflets are modified wiry, coiled structures called tendril. They are sensitive to touch as they ~~to~~ touch any object the coil around.

it and support the plant to climb up.
Example: Sweet pea.

- Spines: Leaves are modified into spine to reduce water loss, like cactus. In prickly poppy, leaves bear spines on the margin.
- Scale leaves: In some plants like onion and ginger, thick and fleshy or thin and dry scale leaves are present. Their function is to store food and protect the buds.

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

A The two adaptations in birds which help them to fly in air are:

- Wings: The ~~four forelimbs~~ forelimbs are modified into wings. The whole length of the forelimbs carries long flight feathers.

- Steering and brakes: The feathers on the tail help to slow down the speed and also help in steering (changing direction).

B.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 mountain regions.

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

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

2. State the importance of transpiration.

A- Transpiration helps in the conduction of water and minerals to different parts of the plant.

- It helps in absorption and upward

movement of water and minerals and prevents the plants from heating up.