

Case study based questions

10th Science

Life Processes

Passage - 1

5 Marks



Rishaan experienced muscular cramps during the training session for his upcoming football match. Mr. Sen, his coach advised him on a schedule of some aerobic exercises to overcome his problem of muscular cramps. Rishaan followed his coach's advice and did not face the problem of muscular cramps again during his match

Q1. (1) Respiration

Q2. (4) Conversion of pyruvate to lactic acid

Q3. (2) NO

Q4. (1) YES

Q5. (1) Lack of oxygen

Passage - 2

5 Marks



Blood transport food and waste materials in our bodies. It consists of plasma as a fluid medium. A pumping organ is required to push the blood around. The blood flows through the chambers of the organ in a specific manner and direction. While flowing throughout the body, blood exert a pressure against the wall or a vessel.

Q1. (3) Transportation

Q2. (2) Heart

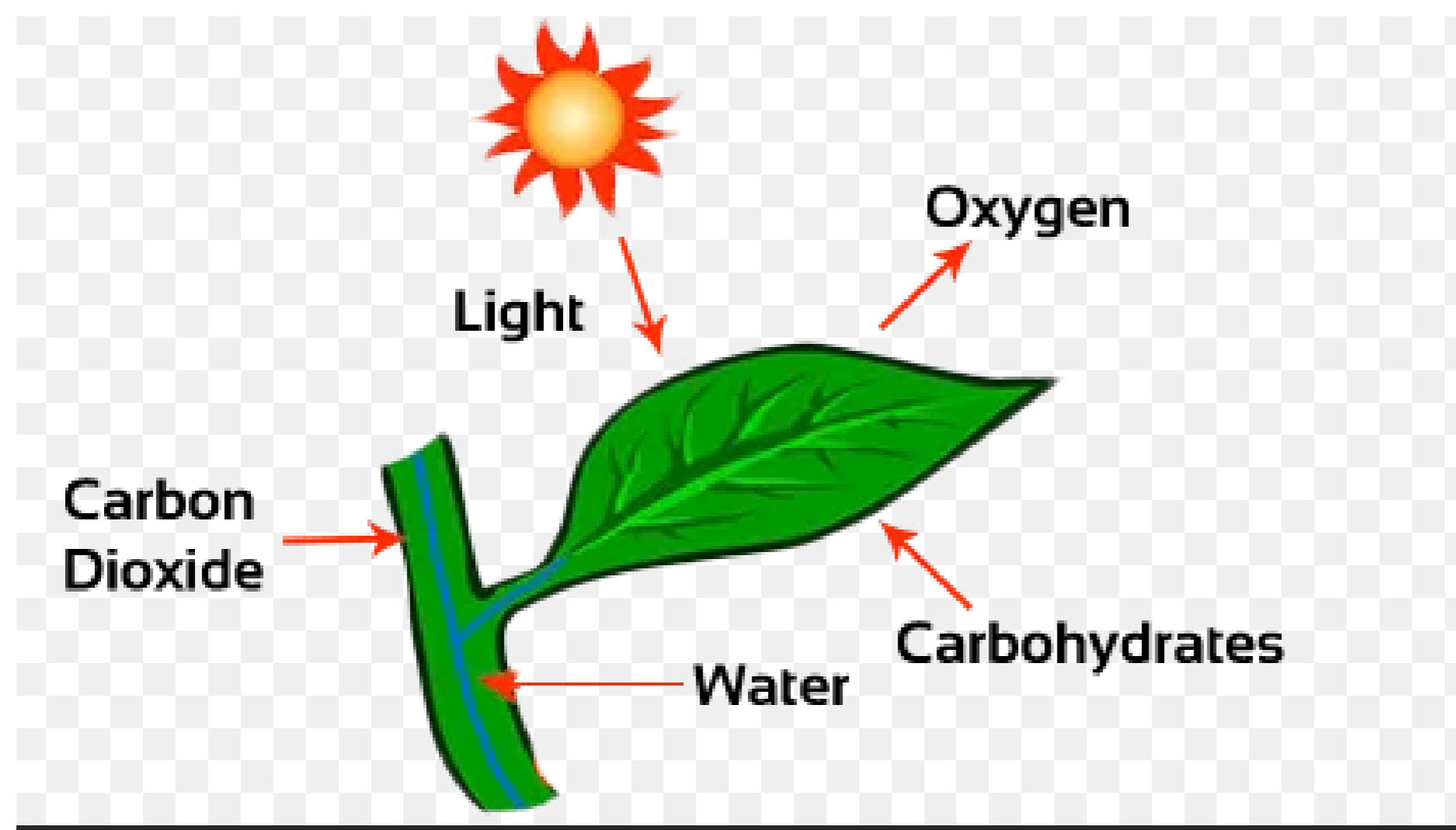
Q3. (3) Pulmonary vein

Q4. (2) Pulmonary artery

Q5. (4) (i), (iii) and (iv)

Passage - 3

5 Marks



Plants are living things that need some form of energy. They have cells and tissues. They also grow in size and girth likewise human beings. They are the producers of the ecosystem. So, in order to synthesize food, they do have nutrient requirements. Of course, the kind of nutrient requirements varies. Plants too have their special capability to form their own food.

Q1. (1) Autotrophic

Q2. (2) They reflect green light and they contain a pigment called chlorophyll.

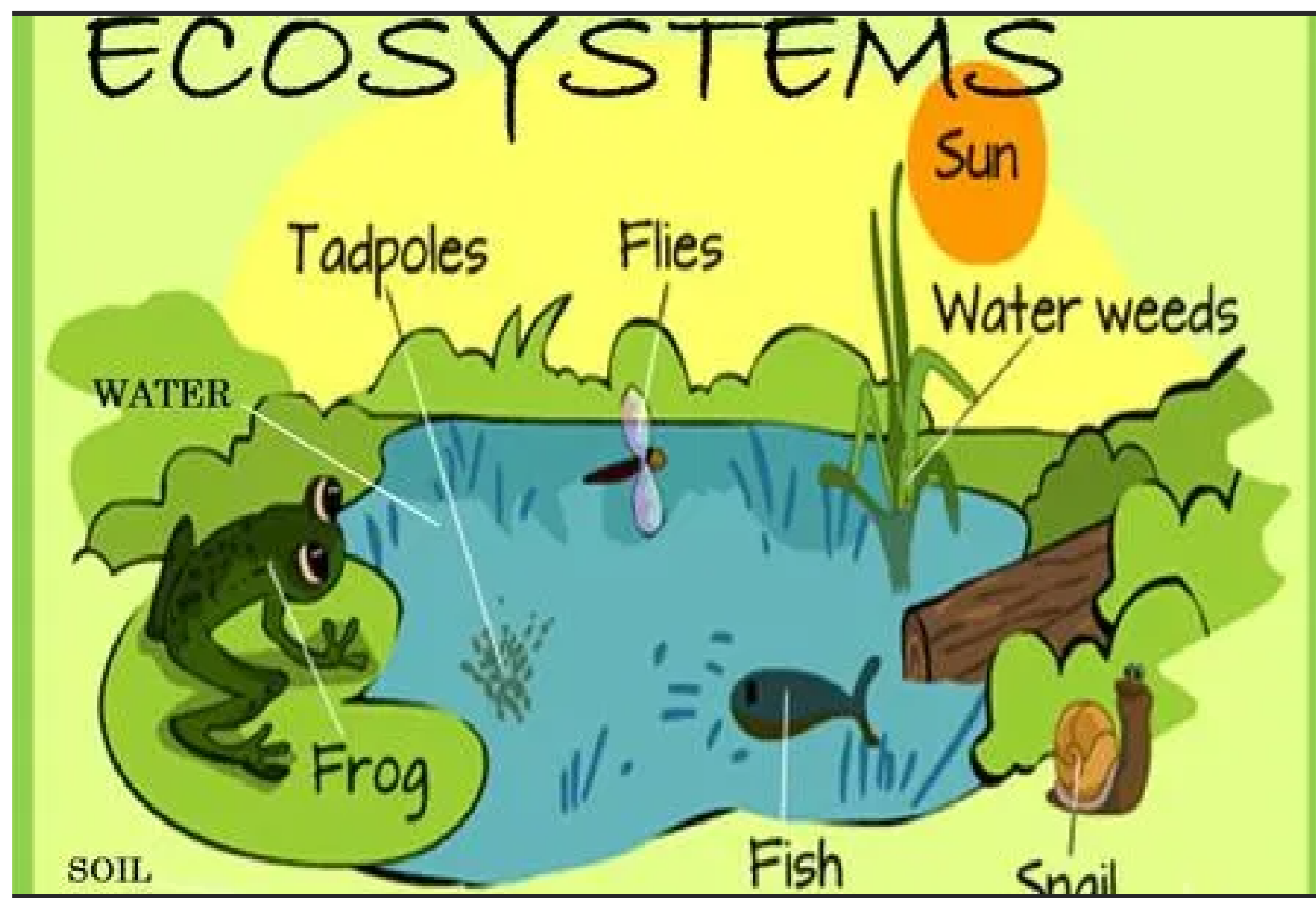
Q3. (4) Perform photosynthesis in the presence of sunlight

Q4. (2) Calcium

Q5. (3) Photosynthesis

Passage - 4

5 Marks



Every organism existing in the ecosystem has its own way of intaking food or we can say gaining energy. This process of gaining energy is known as nutrition. Nutrition is necessary because energy is required for maintaining a state of order in our body. This source of energy is provided by the by the nutrition we intake in form of different things.

Q1. (4) Nutrition

Q2. (2) 2

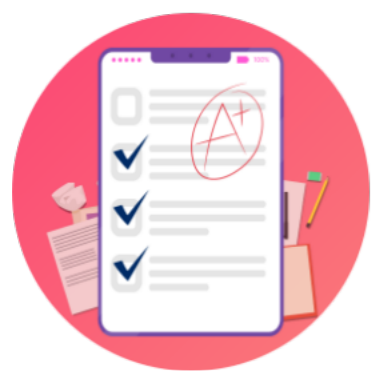
Q3. (4) All of the above

Q4. (2) Holozoic nutrition

Q5. (1) Carbohydrates and fats

Passage - 5

5 Marks



In human beings, the food is taken in through the mouth and is broken down by various steps along the alimentary canal and the digested food is absorbed in the small intestine to be sent in the body. The nutrition taken by the body is broken in the form of ATP which provides energy for other reactions in the cell.

Q1. (2) Adenosine tri-phosphate

Q2. (1) Absorption of water

Q3. (1) TRUE

Q4. (3) Pepsin needs an acidic medium to work upon proteins.

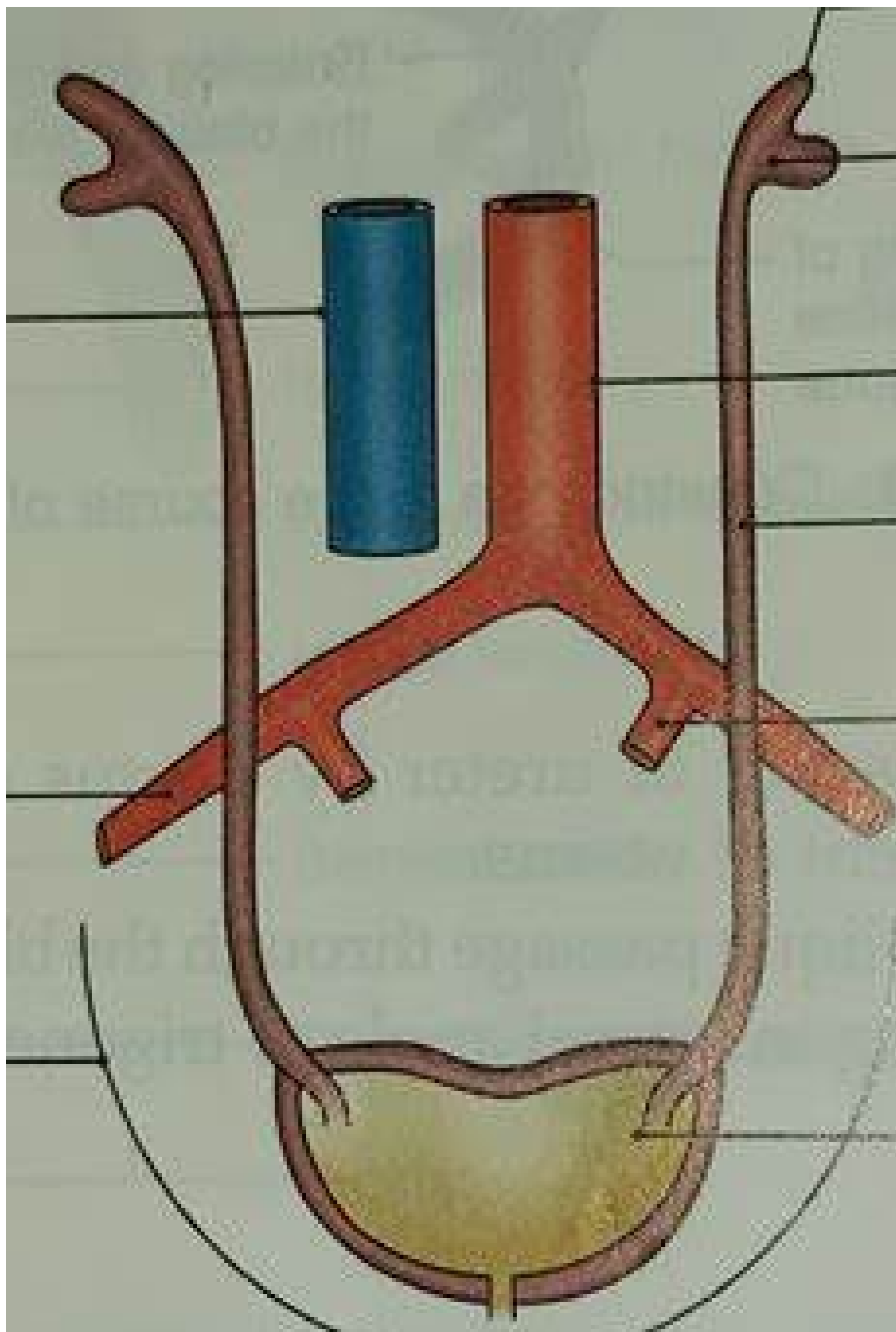
Q5. (3) Liver

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Life Processes

Passage - 1

5 Marks



Excretion is a necessary life process both in plants and animals. Plants use a variety of techniques to get rid of waste material. For example, waste material may be stored in the cell vacuoles or as a gum and resin, removed in the falling leaves, or excreted into the surrounding soil.

Q1. (4) Metabolic wastes

Answer Key 6.2

Marks - 25

Q2. (1) TRUE

Q3. (4) All of the above

Q4. (4) All of the above

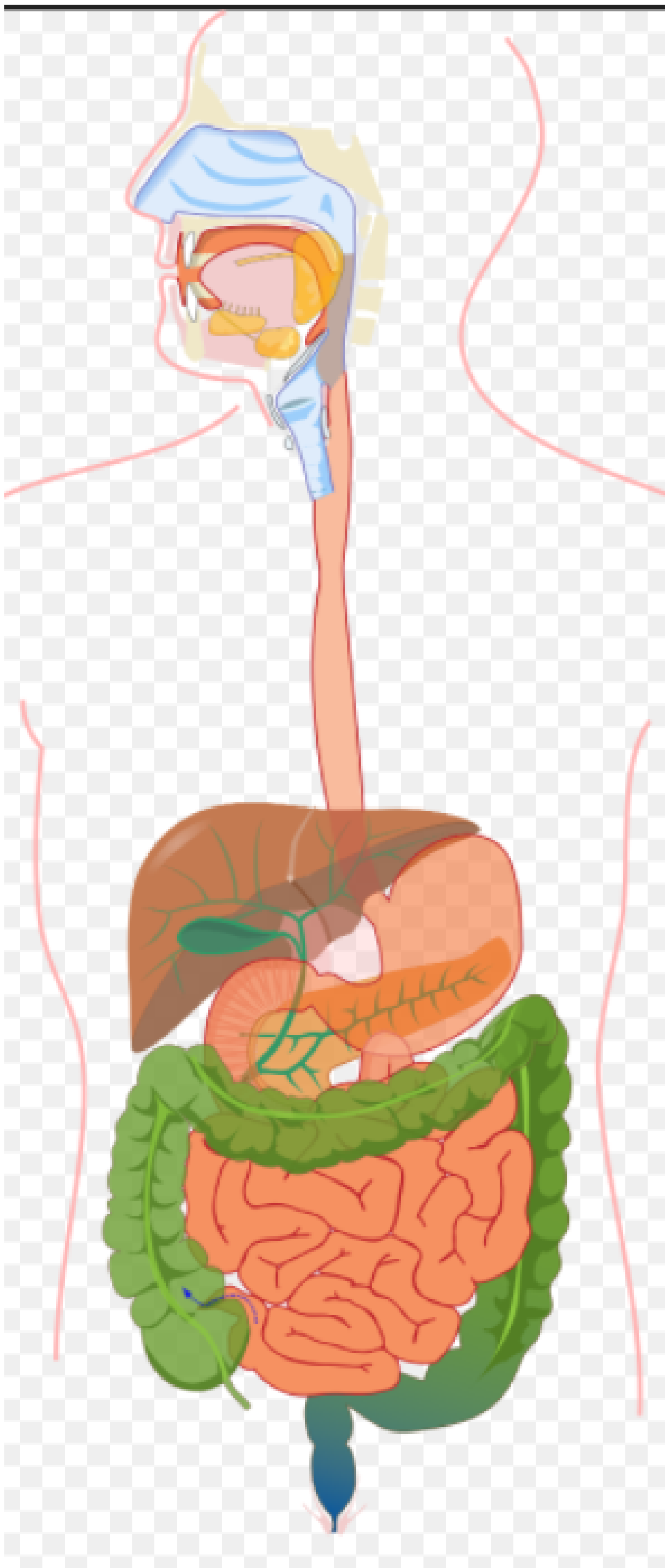
Q5. (2) Conduction of absorbed water

Passage - 2

5 Marks

Answer Key 6.2

Marks - 25



When a person puts food in his mouth, then teeth cut it into small pieces, chew and grind it. The salivary glands in the mouth secrete saliva which is

mixed with the food by tongue. The saliva contains an enzyme which starts the digestion in mouth. The food goes further to the stomach for further digestion process. The stomach produces gastric juice which contains different substances. An acid present in stomach also helps to kill bacteria which may enter the stomach with food.

Q1. (3) Gives safety against dental carries

Q2. (2) Ptyalin

Q3. (2) Sublingual gland

Q4. (4) All of the above

Q5. (3) Hydrochloric acid

Passage - 3

5 Marks



In a forest, several types of animals are found and we can categorise them under different categories such as animals eating only the flesh of the other animals, animals which eat only the green grass and herbs and the animals which eat both flesh of other animals as well as herbs and green grass around

them. Presence of each type of animal is necessary in the ecosystem in order to maintain a balanced environment.

Q1. (2) Carnivores

Q2. (1) Herbivores

Q3. (1) Herbivores

Q4. (3) Elephants

Q5. (1) Deer

Passage - 4

5 Marks



Riya was taught about the different modes of nutrition in her science class by her teacher. The methods included three types, i.e., deriving food from another living organism without killing it, taking solid food by the process of ingestion,

digests the part of it and throws out the undigested one and the last one was obtaining of food from dead and decaying food. The three methods were completely different from each other.

Q1. (1) Parasitic

Q2. (2) Holozoic

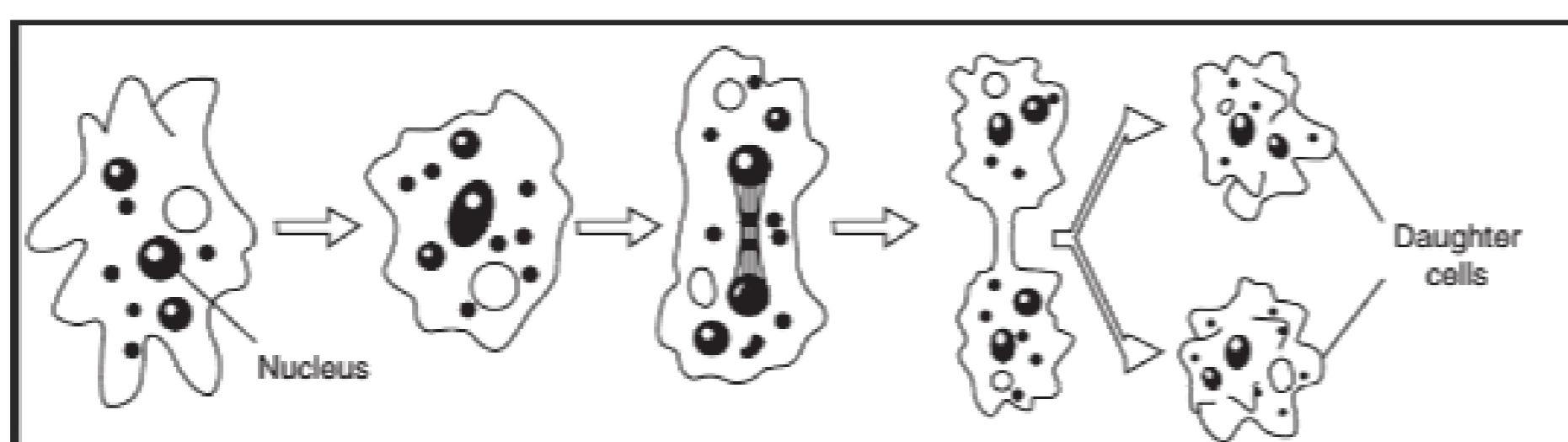
Q3. (3) Saphrotrophic

Q4. (4) All of the above

Q5. (4) Mushroom

Passage - 5

5 Marks



Amoeba is an animal having no fixed shape ingests food particles by formation of temporary finger-like projections. The food vacuole inside amoeba breaks down the food into small and soluble molecules. The digested food is thrown out by the amoeba by the rupture of cell membrane and it goes on for the search of next food particle.

Q1. (1) Unicellular

Q2. (3) Pseudopodia

Answer Key 6.2

Marks - 25

Q3. (2) Holozoic

Q4. (1) Egestion

Q5. (1) Vertebrates
