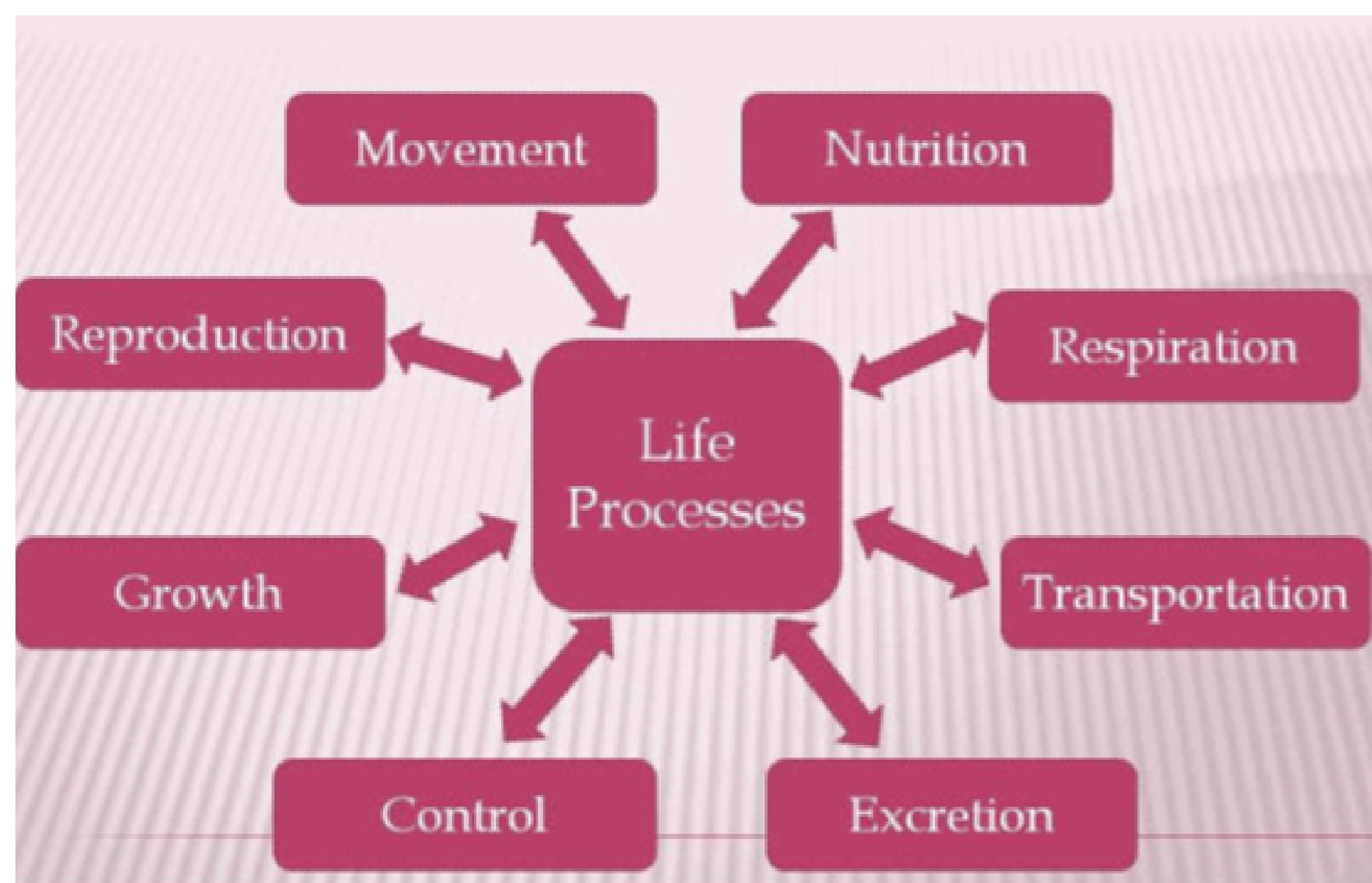


Case study based questions 10th Science

Life Processes

Passage - 1

5 Marks



Nutrition, respiration, circulation, excretion are examples of essential life processes. In unicellular organisms, all these processes are carried out by that single cell. In multicellular organisms, well-developed systems are present to carry out the processes. These processes help us classify that whether the organism is living or not.

Q1. (3) Both A and B

Q2. (4) Catabolic process that uses oxygen, produces carbon dioxide and converts released energy into ATP

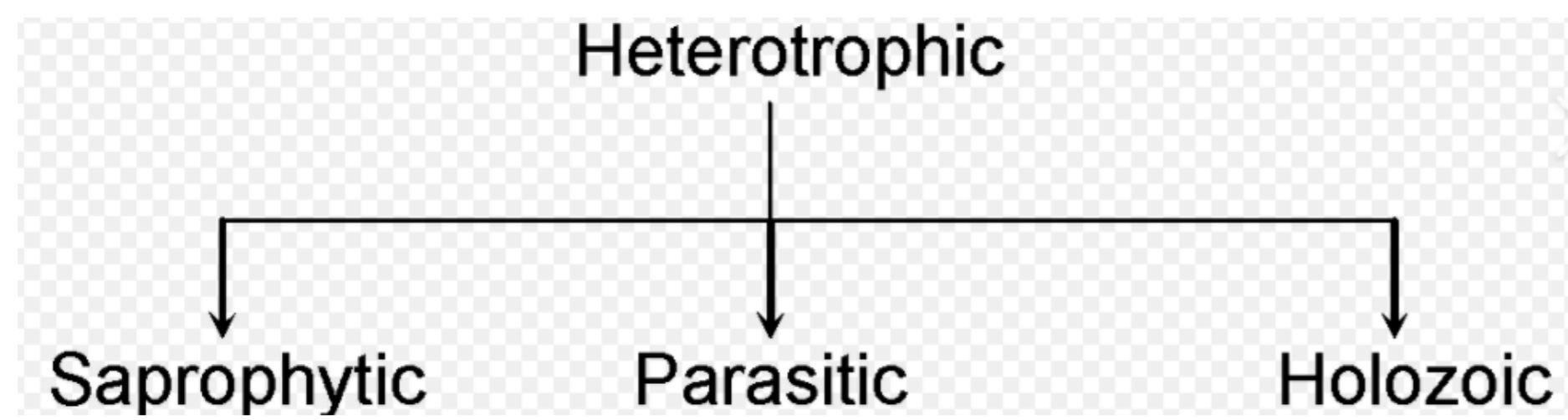
Q3. (3) Upward conduction/ascent of sap

Q4. (4) Metabolic waste products

Q5. (4) Nervous and endocrine systems

Passage - 2

5 Marks



During a class of nutrition, the students were taught about the heterotrophic mode of nutrition. Heterotrophic nutrition is the mode of nutrition where the organism is unable to prepare its food and hence, depends upon plants or other organisms for nutrition. Heterotrophic nutrition can be one of three types - holozoic, saprophytic or parasitic.

Q1. (4) Heterotrophic nutrition

Q2. (4) All of the baove

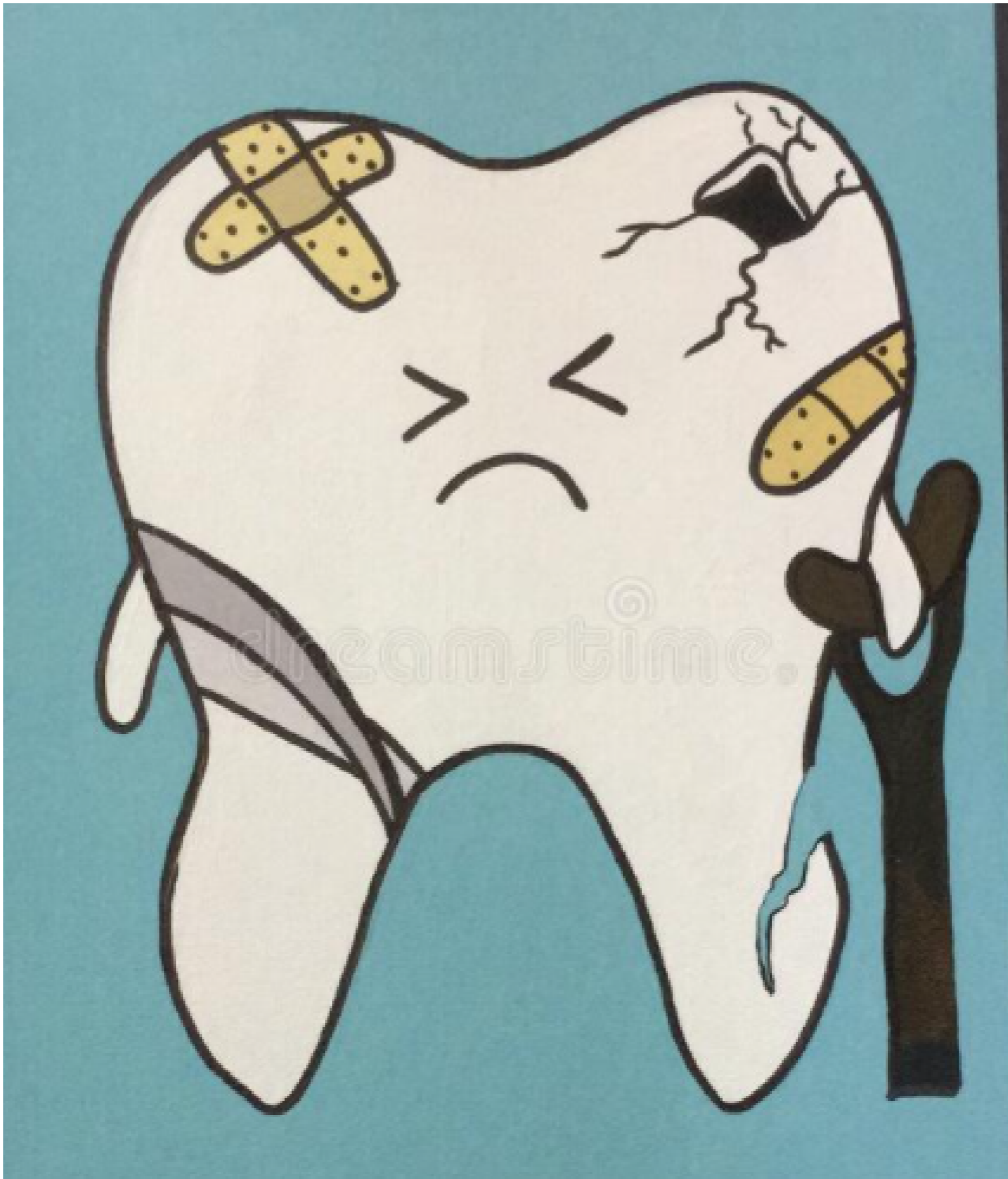
Q3. (1) Humans

Q4. (1) Saprotrophic or parasitic

Q5. (2) Mushroom

Passage - 3

5 Marks



Brushing required by our teeth on a regular basis. If the teeth are not regular, they become covered with a sticky yellowish layer of food particles and bacteria. Since the layer covers the teeth, an alkaline liquid is secreted by the glands of our mouth cannot reach the teeth surface to neutralise the acid formed by the action of bacteria which hence results in tooth decay.

Q1. (1) TRUE

Q2. (2) Salivary gland

Q3. (1) TRUE

Q4. (1) Acids released by bacteria damages the teeth

Q5. (4) All of the above

Passage - 4

5 Marks



There are four organisms A, B, C and D. The organism A eats only the flesh of other animals as food. The organism B can eat grains, fruits and vegetables as well as meat and fish. The organism C can make the food itself from simple inorganic substances present in the environment by utilising sunlight energy. On the other hand, organism D eats only plants and their products as food.

Q1. (2) C

Q2. (4) All of the above

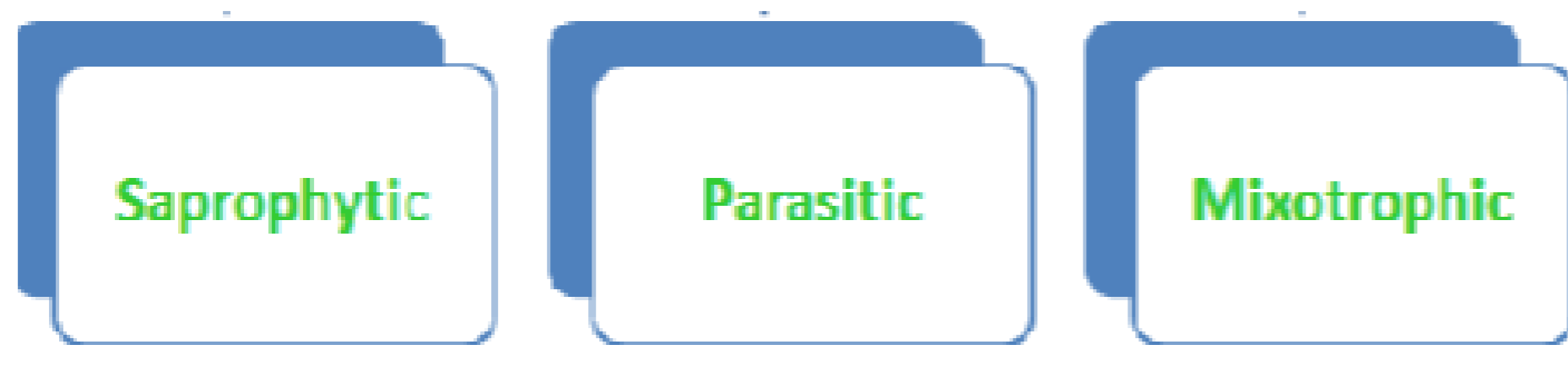
Q3. (3) C

Q4. (4) All of the above

Q5. (1) A

Passage - 5

5 Marks



The organisms A, B and C can obtain their food in three different ways. Organism A derives its food from the body of another living organism which is called its D, without killing it. The organism B takes in the solid food by the process of ingestion, digests a part of this food and throws out undigested food in the process called egestion. The organism C obtains food its food from dead and decaying plants.

Q1. (1) Parasitic

Q2. (2) Holozoic

Q3. (3) Saprotrophic

Q4. (2) Heterotrophic nutrition

Q5. (1) Tapeworm

Case study based questions
10th Science

Life Processes

Passage - 1

5 Marks



Energy is needed in our body. We also need materials from outside in order to grow, develop, etc in the body. This source of energy is the food we eat. So, the process of acquiring food that is needed for nourishment and sustenance of the organism is called nutrition. There are two main modes of nutrition: autotrophic and heterotrophic. Heterotrophic nutrition has subtypes as holozoic, saprophytic and parasitic nutrition. Autotrophs are the organisms use simple food material obtained from inorganic sources in the form of carbon dioxide and water. Refer this information to answer the questions below.

Q1. (2) Bacteria, Green plants

Q2. (1) Heterotrophs

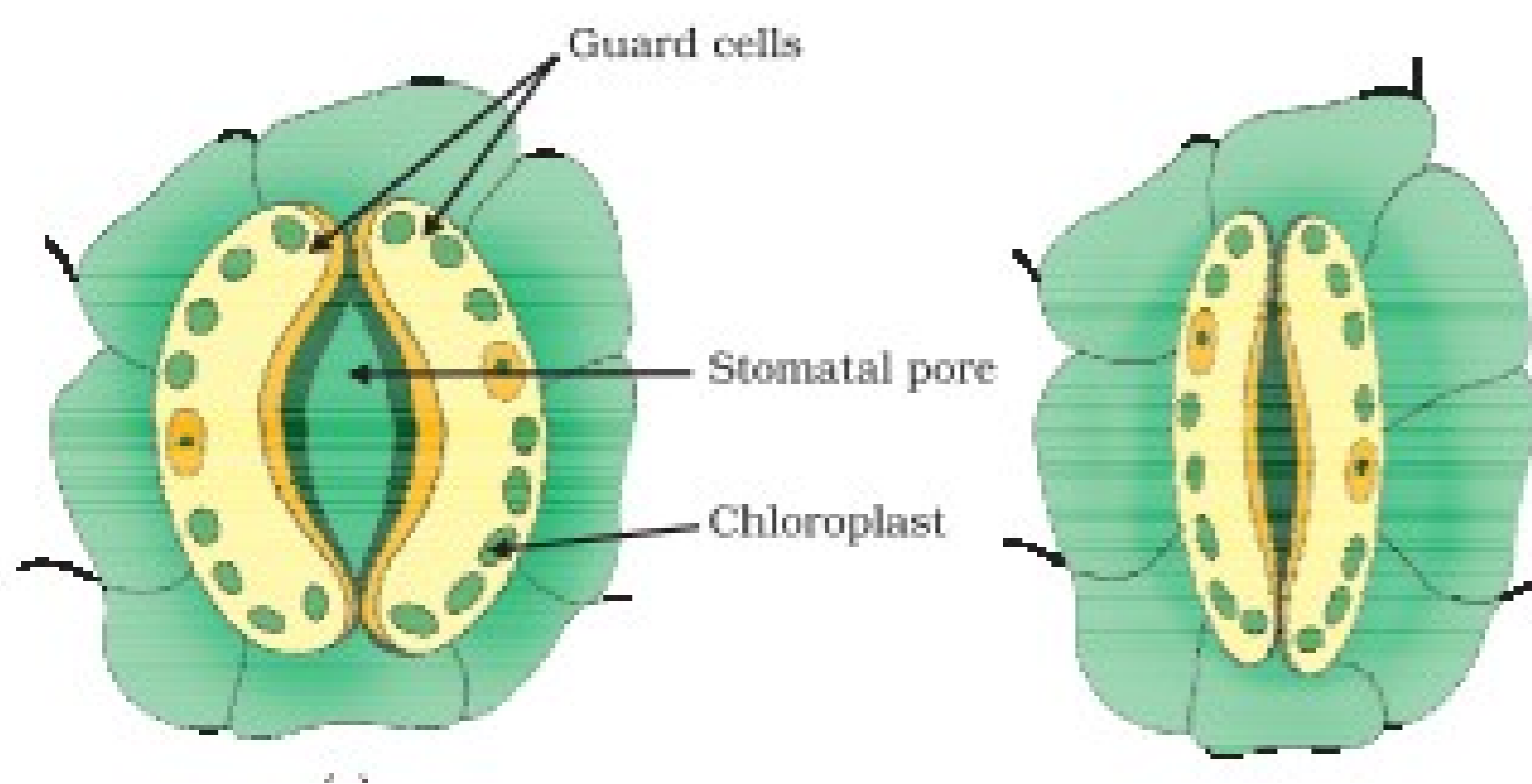
Q3. (2) Hydrogen

Q4. (4) Animal, Fungi

Q5. (3) Both option 1 and 2

Passage - 2

5 Marks



The tiny pores present on the surface of the leaves are called as 'X'. Large amounts of water can also be lost through the 'X', hence the plant closes these pores when it does not need carbon dioxide for the process 'Y'. The opening and closing of the pore is a function of the 'Z'. When water flows into them, 'Z' gets swelled.

Q1. (1) Stomata

Q2. (1) Guard Cells

Q3. (2) Photosynthesis

Q4. (4) All the options

Q5. (2) On the underside of the leaf

Passage - 3

5 Marks



Organisms 'Q' break-down the food material outside the body and then absorb it whereas, organisms 'R' take in whole material and break it down inside their bodies. Hence, we say that every organism is adapted to its environment. The form of nutrition differs in heterotrophs depending on the type and availability of food material as well as how it is obtained by the organism.

Q1. (2) Bread moulds, yeast and mushrooms

Q2. (1) Cats, Humans and Wild animals

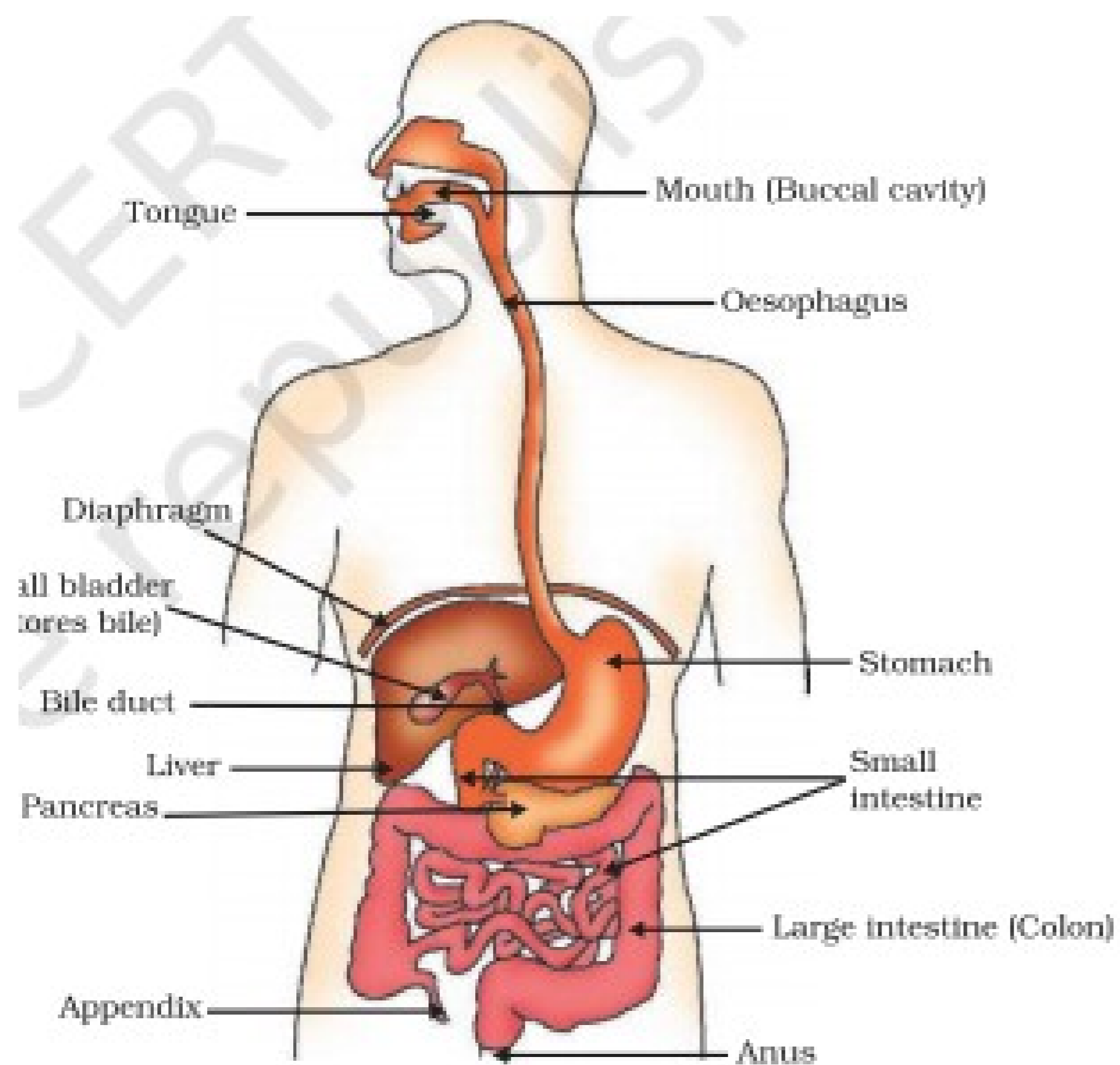
Q3. (2) Many

Q4. (3) Parasitic

Q5. (2) Saprophytic

Passage - 4

5 Marks



Refer the image above for the passage. The food is taken to the X through the food-pipe, from the mouth. The X is a large organ which expands when food enters it. The muscular walls of the X help in mixing the food thoroughly with more digestive juices. The digestion in X is taken care of by the gastric glands present in the wall of the X.

Q1. (1) Stomach

Q2. (4) All the options

Q3. (2) Oesophagus

Q4. (1) Muscular walls

Q5. (3) Buccal Cavity

Passage - 5

5 Marks



The term A means the exchange of gases. The modes and ways to perform the term A differs in the animals, plants and humans. At 'B' level, term 'A' is referred as the burning of the food for generating the energy needed for other life processes. The energy released during 'B' level by the term 'A' is immediately used to synthesise a molecule called 'C'. This term 'C' is used to fuel some of the activities in the cell.

Q1. (1) Cellular

Q2. (2) Respiration

Q3. (3) Energy

Q4. (1) ATP

Q5. (4) All the options
