Worksheet 6.1

Marks - 25

Case study based questions

10th Science

Life Processes

Passage - 1 **5 Marks**

Rishaan experienced muscular cramps during the training session for his up-coming 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

Q 1. Which life process is depicted by the above passage?

(1) Respiration
(2) Digestion
(3) Nutrition
(4) Excretion

Worksheet 6.1

Marks - 25

Q 2. Lack of oxygen in muscles often leads to cramps due to

(1) Conversion of pyruvate to ethanol
(2) Conversion of glucose to pyruvate
(3) Conversion of pyruvate to glucose
(4) Conversion of pyruvate to lactic acid

Q 3. Is lactic acid produced by anaerobic respiration in yeast?

(1) YES
(2) NO

Q 4. Is carbon dioxide produced by anaerobic respiration in yeast?

(1) YES
(2) NO

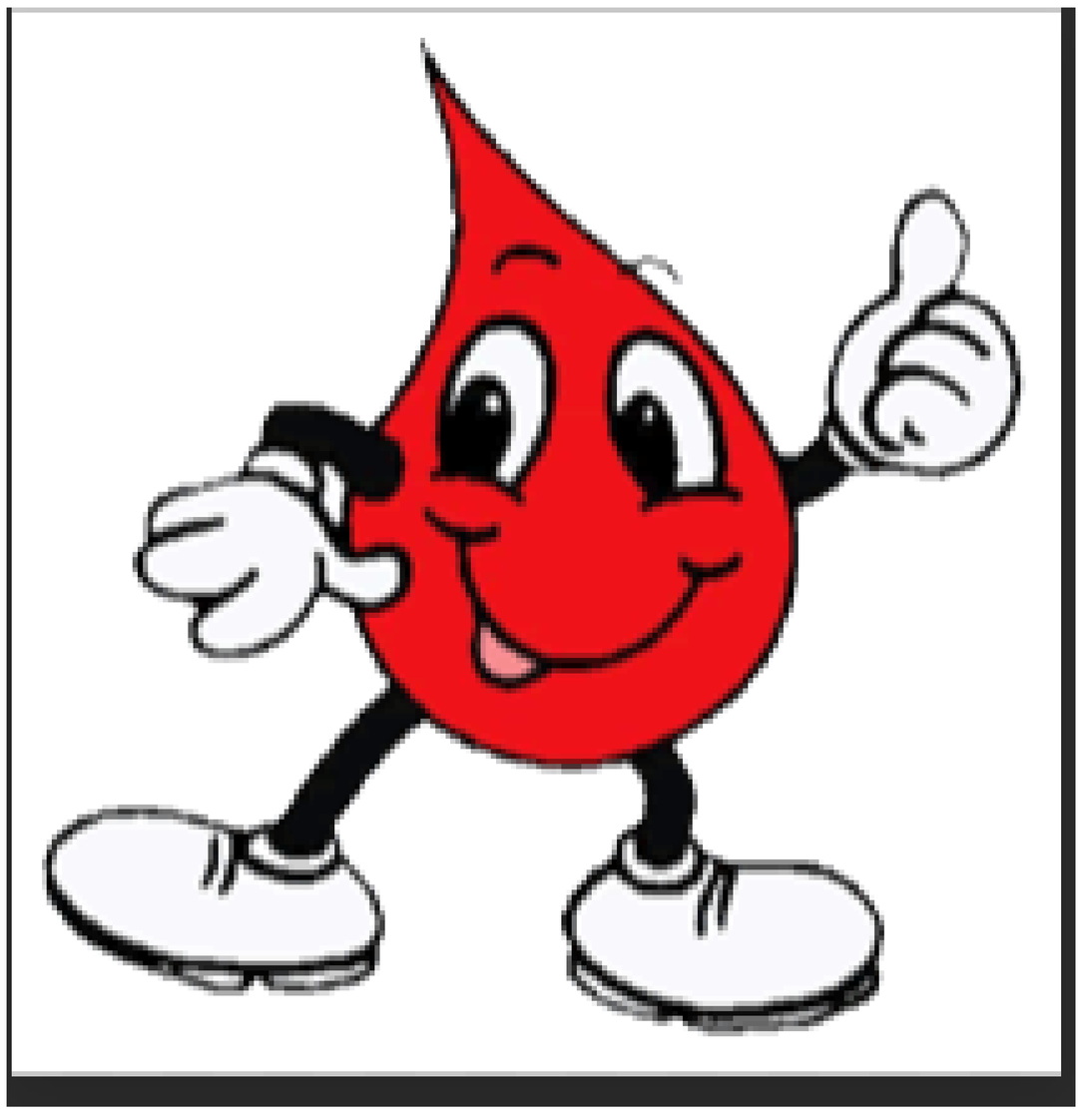
Q 5. Why there is an increase in lactic acid concentration in the blood at the beginning of the exercise?

(1) Lack of oxygen
(2) Excess of oxygen
(3) Lack of carbon dioxide
(4) Excess of carbon dioxide

Passage - 2 **5 Marks**

Worksheet 6.1

Marks - 25



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.

Q 1. Which life process is depicted by the above passage?

(1) Respiration
(2) Digestion
(3) Transportation
(4) Excretion

Q 2. Name the blood pumping organ.

(1) Lungs
(2) Heart
(3) Kidney
(4) None of the above

Q 3. Oxygenated blood from lungs enters left atrium through .....

(1) Vena cava
(2) Pulmonary artery
(3) Pulmonary vein
(4) Aorta

Q 4. Deoxygenated blood leaves through the right ventricle through .....

(1) Vena cava
(2) Pulmonary artery
(3) Pulmonary vein
(4) Aorta

Q 5. Which of the following statements is true about heart?

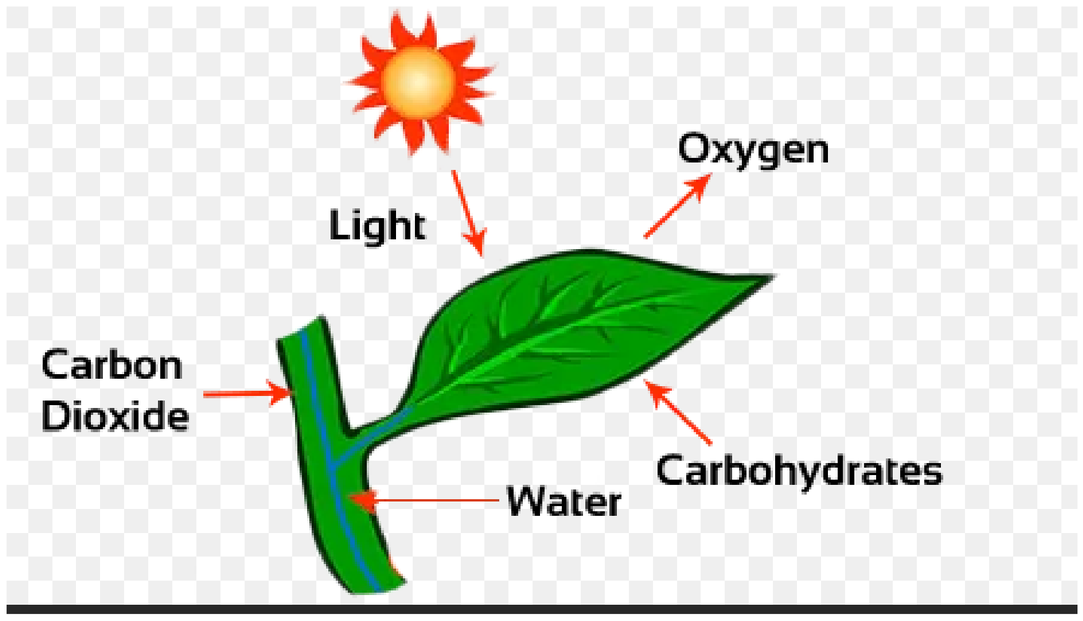
(i) It is a hollow muscular organ.
(ii) It is a four chambered having three atria and one ventricle.
(iii) It has different chambers to prevent the oxygen - rich blood from mixing with the blood containing carbon dioxide.
(iv) Arteries always carry blood away from the heart.

(1) (i) and (ii)
(2) (ii) and (iii)
(3) (i), (ii) and (iii)
(4) (i), (iii) and (iv)

Passage - 3 **5 Marks**

Worksheet 6.1

Marks - 25



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.

Q 1. What is the kind of mode of nutrition opted by plants?

(1) Autotrophic
(2) Heterotrophic
(3) None of the above

Q 2. Plants are green in colour because

(1) They absorb green light only and they contain a pigment called chlorophyll.
(2) They reflect green light and they contain a pigment called chlorophyll.
(3) They absorb green light but reflects all other lights and they contain a pigment called chlorophyll.
(4) None of these

Q 3. The most important function of chlorophyll is to

(1) Absorb carbon dioxide from the atmosphere
(2) Absorb water and minerals from the soil
(3) Give green colour to the leaves

(4) Perform photosynthesis in the presence of sunlight

Q 4. Which element is not present in chlorophyll?

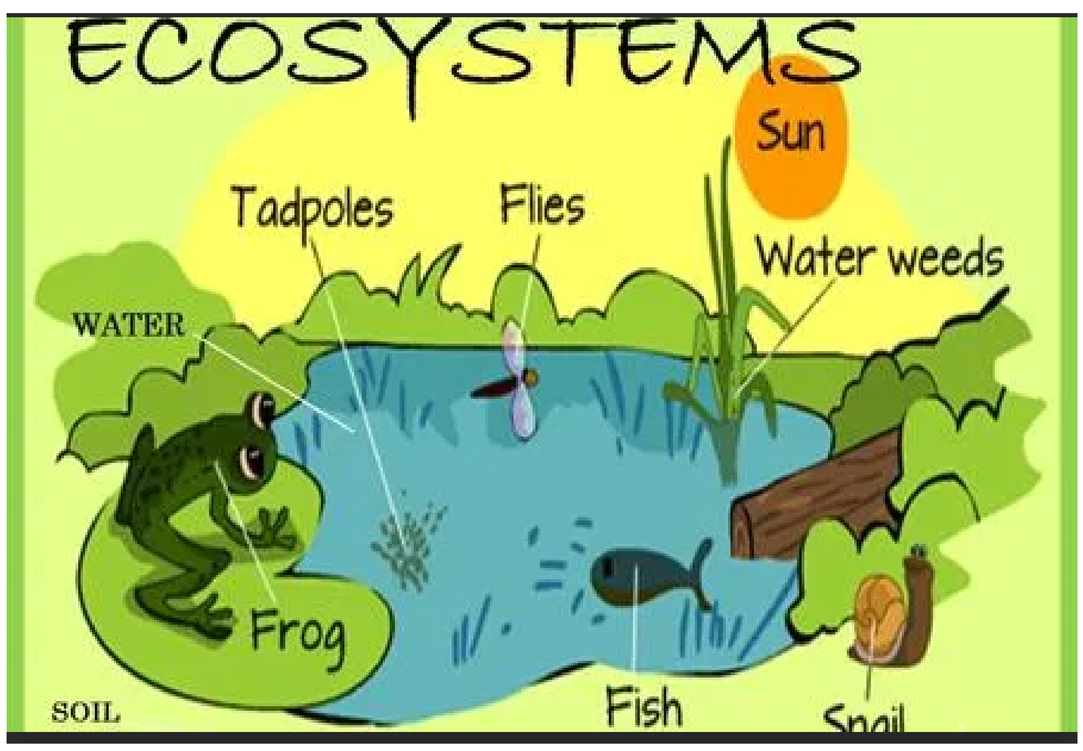
(1) Carbon
(2) Calcium
(3) Magnesium
(4) Hydrogen

Q 5. Process by which plants prepare their food is .....

(1) Carbohydrolysis
(2) Metabolic synthesis
(3) Photosynthesis
(4) Photorespiration

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.

Worksheet 6.1

Marks - 25

Q 1. Which life process is depicted by the above passage?

(1) Respiration
(2) Digestion
(3) Transportation
(4) Nutrition

Q 2. State the number of types of nutrition adapted by plants and animals.

(1) 1
(2) 2
(3) 3
(4) None of the above

Q 3. Substances required for autotrophic nutrition are

(1) CO_2 and H_2O
(2) Sunlight
(3) Chlorophyll
(4) All of the above

Q 4. Phagocytosis by amoeba is

(1) Parasitic nutrition
(2) Holozoic nutrition
(3) Autotrophic nutrition
(4) Saprotrophic nutrition

Q 5. Which of these foods gives us energy?

(1) Carbohydrates and fats
(2) Proteins and mineral salts

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(3) Vitamins and minerals
(4) Water and roughage

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.

Q 1. What is the full form of ATP?

(1) Adenisyne tri-phosphate
(2) Adenosine tri-phosphate
(3) Adenosine tetraphosphate
(4) Adenosine monophosphate

Q 2. Function of large intestine is mainly

(1) Absorption of water
(2) Assimilation of food
(3) Digestion of fats
(4) Digestion of carbohydrates

Worksheet 6.1

Marks - 25

Q 3. State TRUE or FALSE : Herbivores have longer small intestine than a carnivore.

(1) TRUE
(2) FALSE

Q 4. The stomach produces acidic hydrochloric acid. Why ?

(1) Starch is broken down into simple glucose by it.
(2) To neutralize bases present in food.
(3) Pepsin needs an acidic medium to work upon proteins.
(4) None of the above

Q 5. Bile juice is secreted by

(1) Stomach
(2) Saliva
(3) Liver
(4) None of the above

Worksheet 6.2

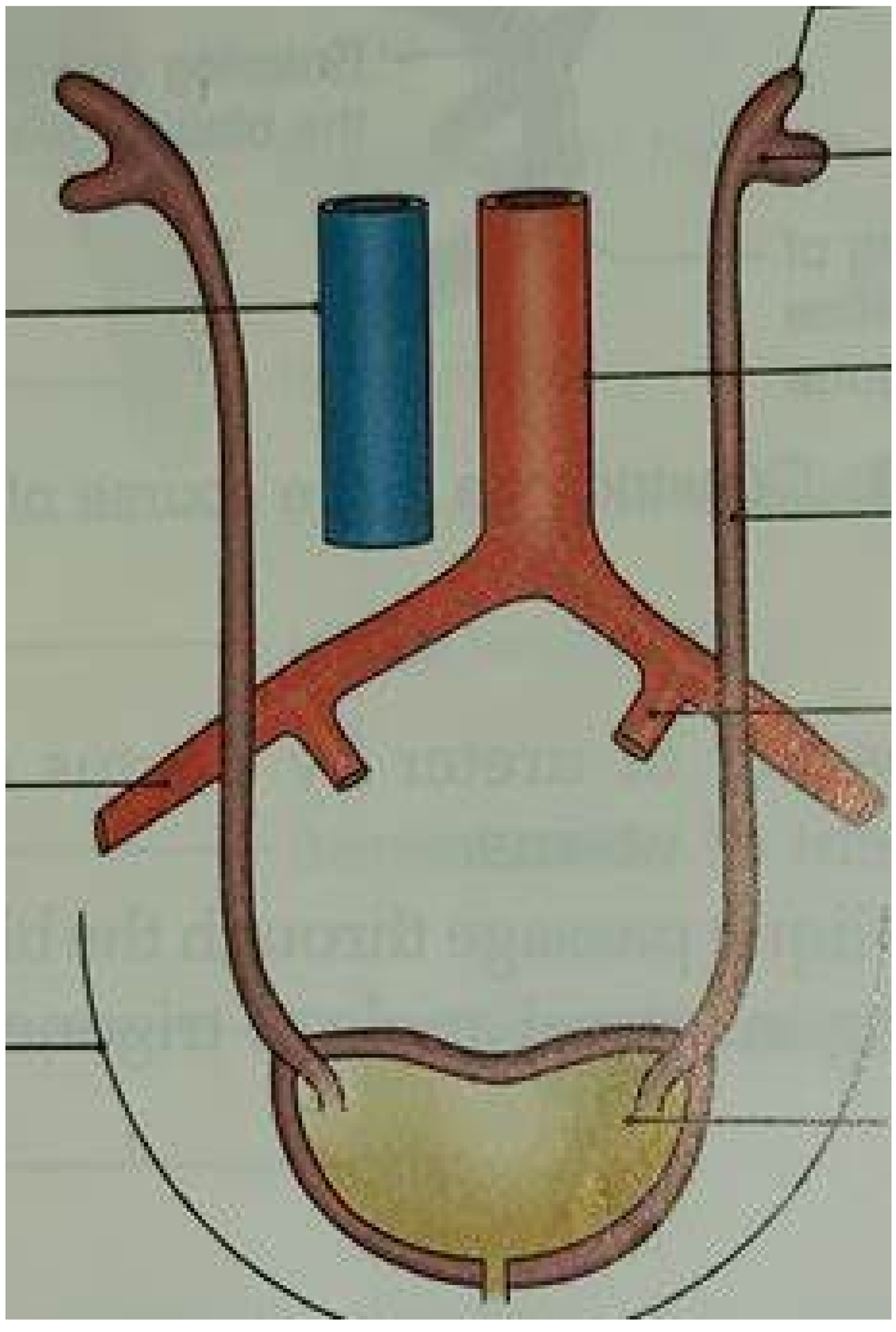
Marks - 25

Case study based questions

10th Science

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 stored in the cell vacuoles or as a gum and resin, removed in the falling leaves, or excreted into the surrounding soil.

Q 1. Excretion is the removal of .....

(1) Salts

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(2) Glucose
(3) Amino acids
(4) Metabolic wastes

Q 2. State TRUE or FALSE : Many plant waste products are stored in cellular vacuoles.

(1) TRUE
(2) FALSE

Q 3. Plants excrete through .....

(1) Through soil
(2) Through transpiration
(3) Through dead leaves
(4) All of the above

Q 4. The main waste products in plants is

(1) Carbon dioxide
(2) Water vapour
(3) Oxygen
(4) All of the above

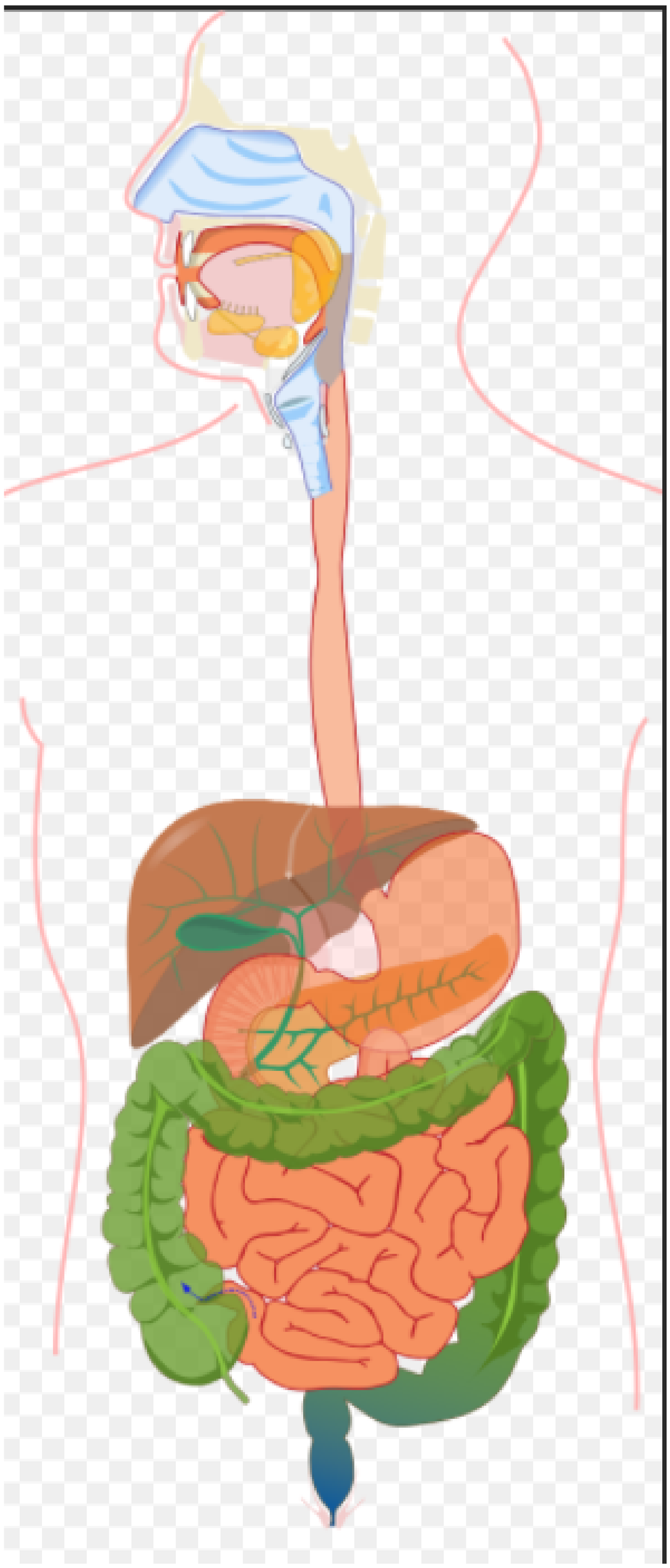
Q 5. Function of xylem tissue is

(1) Collection of food material
(2) Conduction of absorbed water
(3) To take out water from cells
(4) All of the above

Passage - 2 **5 Marks**

Worksheet 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 secretes 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.

Q 1. The saliva secreted by salivary glands does not

(1) Bring about hydrolysis of starch upto 90%
(2) Initiate the process of digestion
(3) Gives safety against dental carries
(4) Contain electrolytes like sodium, potassium, calcium etc.

Q 2. The enzyme present in saliva is

(1) Maltase
(2) Ptyalin
(3) Sucrase
(4) Invertase

Q 3. A salivary gland is .....

(1) Brunners gland
(2) Sublingual gland
(3) Lacrimal gland
(4) Adrenal gland

Q 4. What substances are present in gastric juice?

(1) Hydrochloric acid
(2) Mucus
(3) Enzyme pepsin
(4) All of the above

Worksheet 6.2

Marks - 25

Q 5. Name the acid present in the stomach.

(1) Nitric acid
(2) Sulphuric acid
(3) Hydrochloric acid
(4) None of the above

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.

Q 1. What is the term used for the animals who eat flesh of other animals?

(1) Herbivores
(2) Carnivores
(3) Omnivores
(4) None of the above

Worksheet 6.2

Marks - 25

Q 2. What is the term used for the animals which eat only the green grass?

(1) Herbivores
(2) Carnivores
(3) Omnivores
(4) None of the above

Q 3. Which type of animals have a longer small intestine?

(1) Herbivores
(2) Carnivores
(3) Omnivores

Q 4. Give an example of the animal from category 2

(1) Lion
(2) Pigs
(3) Elephants
(4) Antelopes

Q 5. Give an example of an animal from category 3.

(1) Deer
(2) Horse
(3) Elk
(4) Civets

Passage - 4 **5 Marks**

Worksheet 6.2

Marks - 25

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.

Q 1. What is the first method called?

(1) Parasitic
(2) Holozoic
(3) Saphrotrophic
(4) Autotrophic

Q 2. What is the second method called?

(1) Parasitic
(2) Holozoic
(3) Saphrotrophic
(4) Autotrophic

Worksheet 6.2

Marks - 25

Q 3. What is the third method called?

(1) Parasitic
(2) Holozoic
(3) Saphrotrophic
(4) Autotrophic

Q 4. Ingestion is

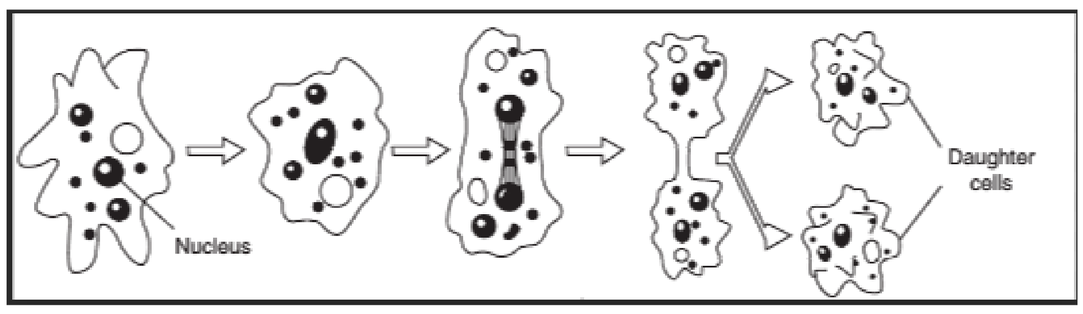
(1) Mechanical process
(2) Swallowing of food
(3) Intake of food so that juices can act on them
(4) All of the above

Q 5. Give an example of third method.

(1) Dodder
(2) Venus fly trap
(3) Nephenthes
(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 vacoule 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.

Worksheet 6.2

Marks - 25

Q 1. Is amoeba unicellular or multicellular?

(1) Unicellular
(2) Multi-cellular

Q 2. What are the temporary projections made in amoeba called?

(1) Walking legs
(2) Limbs
(3) Pseudopodia
(4) None of the above

Q 3. What type of nutrition is followed by amoeba?

(1) Parasitic
(2) Holozoic
(3) Saphrotrophic
(4) Autotrophic

Q 4. The process of throwing out of undigested food in Amoeba is called

(1) Egestion
(2) Digestion
(3) Nutrition
(4) None of the above

Q 5. Give an example of organism which follows same mode of nutrition in amoeba.

(1) Vertebrates
(2) Fungi

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(3) Tapeworms
(4) Cuscata plants