

PONVIDYASHRAM SENIOR SECONDARY SCHOOL-INJAMBAKKAM

STD:VII

SUBJECT: BIOLOGY

CH:2 -LIFE PROCESS IN ANIMALS

I.VERY SHORT ANSWER QUESTIONS

1.The long structure of small intestine is accomodated in small space within our body. Comment.

Ans: The small intestine is very long, but it is accommodated in a small space because it is highly coiled and folded inside the abdominal cavity.

2. Mention the position of rumen in ruminants.

Ans: The rumen is the largest compartment of the stomach in ruminants. It is located mainly on the left side of the abdominal cavity.

3.Describe alimentary canal briefly.

Ans:The alimentary canal is a long, muscular tube through which food passes during digestion. It starts from the mouth and ends at the anus.

Main parts:

Mouth → Oesophagus → Stomach → Small intestine → Large intestine → Rectum → Anus

4. Our nostrils has hair and mucous. What is the need to have them in our nasal cavity?

Ans: The hairs and mucus in the nasal cavity help to filter the air we breathe. They trap dust, germs and other harmful particles, preventing them from entering the lungs. The mucus also moistens the air.

5. What happens to your breathing rate when you

a) exercise

b) go to sleep

Ans: a) Exercise: Breathing rate increases because the muscles need more oxygen and produce more carbon dioxide.

b) Go to sleep: Breathing rate decreases because the body's need for oxygen and energy becomes lower.

II. SHORT ANSWER TYPE QUESTIONS

1.Gastric_glands in stomach release hydrochloric acid enzyme pepsin and mucus. What will happen if mucus is not secreted by the gastric glands?

Ans: If mucus is not secreted, the hydrochloric acid and digestive enzymes in the stomach can damage the stomach lining. This may cause irritation, ulcers and bleeding.

2. Ruminants such as cows and buffaloes swallow their food hurriedly and then sit restfully and chew their food. Give reason.

Ans: Ruminants like cows and buffaloes swallow their food quickly because they need to graze in open areas and may be exposed to danger. Later, when they are resting, they regurgitate the partially digested food and chew it thoroughly. This process is called rumination.

3. Food moves in the opposite direction during vomiting. How?

Ans: During vomiting, the muscles of the stomach and abdominal wall contract, pushing the food upward. The food moves from the stomach → oesophagus → mouth, which is the opposite direction of normal food movement. This process is called vomiting.

4. Windpipe runs adjacent to the food pipe. What will happen if food particles enter the Windpipe. Explain.

Ans: If food particles enter the windpipe (trachea), they can block the passage of air and cause coughing, choking and difficulty in breathing. The body usually tries to remove the particles by a strong coughing reflex.

5. After we work hard or perform physical activity, we feel hungry. Explain why?

Ans: After hard work or physical activity, our muscles use more energy and nutrients. The body needs to replace the energy used and replenish nutrients, so the feeling of hunger increases. Hence, we feel hungry after physical activity.

III. LONG ANSWER TYPE QUESTIONS

1. Explain how the digestion of cellulose occurs inside Grass eating animals?

Ans: Grass-eating animals such as cows and buffaloes have a four-chambered stomach that helps them digest cellulose.

a) Rumen: Food first enters the rumen, where microorganisms break down cellulose. The food is then regurgitated and chewed again (rumination).

b) Reticulum: It receives the partially digested food and helps it into small boluses, which are brought back to the mouth for further chewing.

c) Omasum: The food passes into the Omasum, where water and some nutrients are absorbed.

d) Abomasum: It is the true stomach, where gastric juices and enzymes digest the food further.

Thus, microorganisms in the rumen help ruminants digest cellulose present in grass.

2. Observe the figures carefully and answer the following questions. (Refer pg no. 2.23 QNo:5)

a) Which process is being tested in the activity?

Ans: Exhalation(respiration).

b) What is the result of the activity? Give reasons.

- **Ans: Result:** The lime water in test tube (B) turns milky, while the plain water in test tube (A) remains clear.
- **Reason:** Exhaled air contains a high concentration of carbon dioxide. When carbon dioxide reacts with lime water (calcium hydroxide), it forms an insoluble white precipitate of calcium carbonate which makes the liquid look milky.

IV.HOTS

1. Paheli participated in a 400m race competition held at her school and won the race. When She came home, she had mixed feelings of joy and pain as she had cramps in her leg muscles. After a massage, she was relieved of the pain. Answer the following questions related to the situation.

a) What can be the possible reasons for the pain in her legs?

Ans: The pain in her leg muscles due to lack of sufficient oxygen during vigorous exercise. This causes the muscles to undergo anaerobic respiration, resulting in the formation of lactic acid, which accumulates in the muscles and causes cramps and pain.

b) Why did she feel comfortable after a massage?

Ans: She felt comfortable after the massage because it improved blood circulation in the leg muscles and helped remove the accumulated lactic acid, thereby reducing muscle cramps and pain.

V.Assertion and Reason type questions:

1. A: Food pipe runs through neck and chest.

R: When food is not accepted by our stomach it is vomited out.

Ans: OPTION-C (Refer pg no: 2.24)

2. A: Breathing in and out is a simple physical process.

R: Breathing occurs only in animals and not in plants.

Ans: OPTION-C