


Subject – Science

Class- 7

Topic – chapter-2



Exercise

(Use Cordova Smart Class Software on the smart board in class to do these exercises.)

A Tick (✓) the correct options.

- Number of incisors in buccal cavity of human beings
 (a) 2 ☐ (b) 4 ✓ ☒ (c) 6 ☐ (d) 8
- Organ in which absorption of digested food takes place
 (a) stomach ☐ (b) small intestine ☒ (c) large intestine ☐ (d) mouth
- A part of our body which secretes digestive juice
 (a) large intestine ☐ (b) small intestine ✓
 (c) mouth ☐ (d) oesophagus

B Fill in the blanks.

- Amoeba captures food with the help of pseudopodia.
- In ruminants, Caecum is located between the small intestine and large intestine.
- Taste buds on the tongue reveal taste.

C Short answer type questions

- What is the process of ingestion?
- If tongue doesn't have a taste bud, then which process will be affected?
- If ruminants don't have caecum, what will happen?
- Write name and functions of different types of teeth in human.

D Long answer type questions

1. How does digestion of food take place in stomach?
2. Describe the method of feeding and digestion in *Amoeba* by a labelled diagram.
- ✓ 3. Draw a labelled diagram of digestive system in humans.

E Activity

1. Draw a diagram of digestive system on chart/hard sheet/thermocool and colour its different parts by different colours. Thereafter, cut the different parts. We can do different activities by pieces for example-
 - A student of class will speak organ name and another student pick it and tell the name.
 - Make digestive system by joining pieces.
 - Identification of various organs after bandaging on eyes.
2. Sit in Vajrasana for 5 minutes after meal.
3. Prepare a chart of digestive system and fix in a classroom.

ADDITIONAL QUESTIONS FOR PRACTICE

A Tick (✓) the correct options.

1. Which of the following is not a type of teeth?
(a) incisors ☐ (b) canines ☐ (c) villi ☒ (d) molars
2. How many teeth are present in the permanent set of teeth?
(a) 20 in the upper jaw and 16 in the lower jaw
(b) 16 in the upper jaw and 20 in the lower jaw
(c) 20 in the upper jaw and 20 in the lower jaw
(d) 16 in the upper jaw and 16 in the lower jaw ✓
3. Which of the following is/are caused due to tooth decay?
(a) foul smell ☐ (b) loss of teeth ☐ (c) toothache ☒ (d) all of these
- ✓ 4. The enzyme present in saliva is
(a) ✓ amylase ☒ (b) pepsin ☐ (c) hydrochloric acid ☐ (d) peptone
5. The proteins get broken into simpler substances called _____.
(a) amino acids ✓ ☒ (b) fatty acids ☐ (c) glycerol ☐ (d) glucose

B Match the following.

Column A	Column B
1. <i>Paramecium</i>	(a) pseudopodia
2. <i>Amoeba</i>	(b) cilia
3. Buffalo	(c) sticky tongue
4. Frog	(d) ruminant

C Fill in the blanks.

1. Green plants can prepare their own food by the process of Photosynthesis
2. The cud-chewing animals are called Ruminants

3. The digestive tract and the associated glands together constitute the Digestive system.
4. The Temporary set of teeth has 20 teeth.
5. We must brush our teeth at least Twice a day.
6. Tongue helps in mixing saliva with food.
7. The Small intestine is the longest part of the alimentary canal.
8. The process of digestion starts in the Stomach and completes in the Large intestine.
9. The fats get broken into fatty acid and glycerole.
10. Proteins are used for building and repairing of body parts such as worn out cells and tissues.
11. The process of removal of undigested food through the anus is called Egestion.
12. We should drink minimum 2 litre of water daily.

D Name the following.

1. Teeth that are used to bite and cut the food: Mastication
2. A set of teeth that are 32 in number: Permanent teeth
3. A fleshy muscular organ attached at the back to the floor of the buccal cavity: Tongue
4. The pushing down of food by the walls of the oesophagus in a wave-like action: Peristalsis
5. Gland that secretes bile juice: Liver

E Short answer questions

1. Define digestion.
2. Name the different steps in the process of nutrition in animals.
3. How does a frog procure its food?
4. What does the alimentary canal consist of?
5. Write the functions of a tongue.

F Long answer questions

1. Describe the process of digestion in ruminants.
2. (a) What is mastication?
(b) What is the function of saliva?
3. (a) How does a tooth decay?
(b) How can we avoid tooth decay?
4. Write a short note on—
(a) Liver (b) Pancreas
5. What is the action of intestinal juice on the following food components?
(a) carbohydrates (b) fats (c) proteins
6. Which part of the alimentary canal is involved in
(a) chewing of food, (b) killing of bacteria,
(c) absorption of food and (d) formation of faeces?
7. Describe assimilation.

Chapter 2: Nutrition In Animals

Multiple Choice Questions

1. (a) 2. (a)

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Multiple Choice Questions

1. (c) 2. (c)

Page No. 23

Multiple Choice Questions

1. (d) 2. (b) 3. (c)

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Multiple Choice Questions

1. (a) 2. (b) 3. (d)

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Multiple Choice Questions

1. (b) 2. (b)

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EXERCISE

A. Tick (✓) the correct options.

1. (d)
2. (b)
3. (b)

B. Fill in the blanks.

1. pseudopodia
2. caecum
3. Taste buds

C. Short answer type questions

- The process by which food is taken inside the body of an organism is called ingestion.
- If tongue does not have a taste bud, then it will not be able to detect the different types of tastes (i.e., salty, sour, bitter and sweet) in the food.
- Certain bacteria present in caecum digests the cellulose of the food. Thus, if ruminants do not have caecum, they will not be able to digest cellulose of the food.
- Based on their structure and functions, teeth are of four types:
 - Incisors:** These teeth are used to bite and cut the food into small pieces.
 - Canines:** They are sharp and pointed teeth that help in tearing the food.
 - Premolars:** They grind and break the food into small pieces.
 - Molars:** These teeth are used to crush and grind the food.

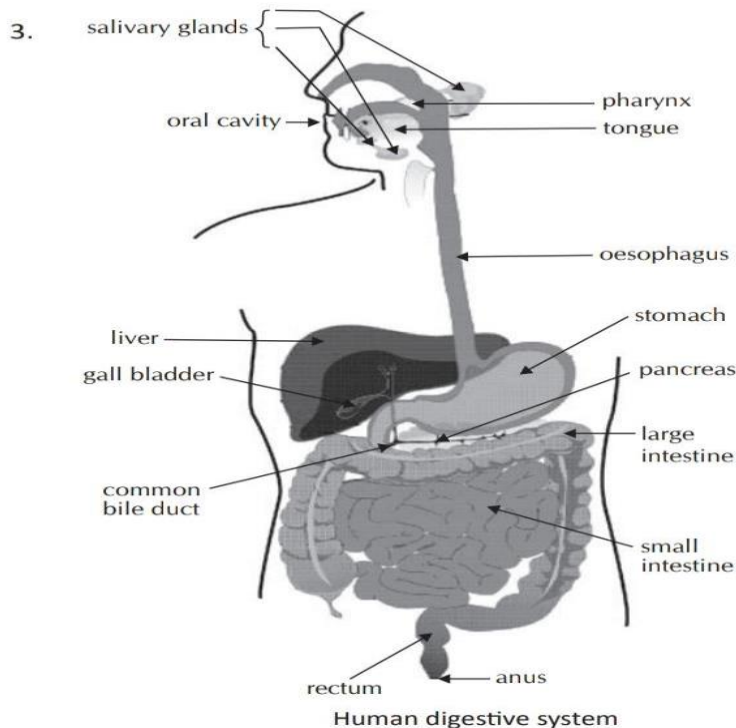
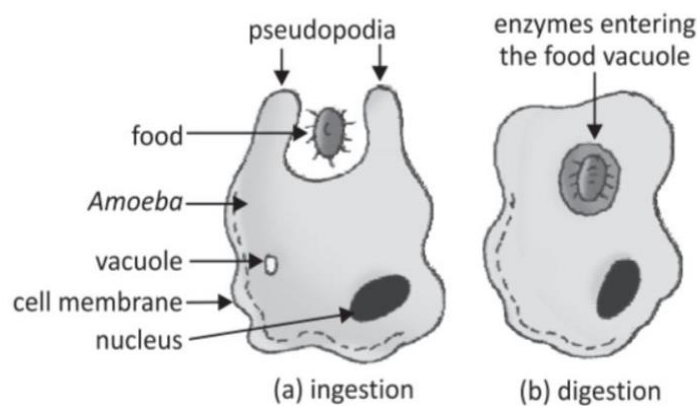
D. Long answer type questions

- The stomach is a J-shaped, thick-walled organ present on the left side of the abdomen. The inner wall of the stomach contains gastric glands. These glands secrete gastric or digestive juices that contain three substances— hydrochloric acid, pepsin and mucus. These three substances help in the digestion of food in the following ways:
 - Hydrochloric acid kills many harmful bacteria that enter our body with the food. It makes the medium in the stomach acidic that enhances the action of digestive enzymes.
 - The mucus protects the inner lining of the stomach from the action of enzymes and acid.
 - In the acidic medium, pepsin digests the proteins in the food to form simple, soluble substances called peptones.

Consequently, the food gets converted into a partially digested, semi-solid food called chyme. The chyme leaves the stomach and enters the small intestine.

2. The method of feeding and digestion in *Amoeba* is described in the following steps:

- (i) **Ingestion (feeding):** *Amoeba* eats tiny microscopic plants and animals as food. These microscopic plants and animals are found in the water in which the *Amoeba* lives. When an *Amoeba* encounters a suitable organism, it pushes out two pseudopodia (false feet) around the organism. Gradually, the tips of the pseudopodia fuse with each other. As a result, the food is engulfed with a little surrounding water to form a food vacuole inside it [Fig. (a)].
- (ii) **Digestion:** The enzymes from the surrounding cytoplasm enter the food vacuole and breakdown the food into simple, soluble substances [Fig. (b)].



ADDITIONAL QUESTIONS FOR PRACTICE

A. Tick (✓) the correct options.

1. (c) 2. (d) 3. (d) 4. (a) 5. (a)

B. Match the following.

1. (b) 2. (a) 3. (d) 4. (c)

C. Fill in the blanks.

- | | | |
|--------------------|---------------------------|--------------------------|
| 1. photosynthesis | 2. ruminants | 3. digestive system |
| 4. temporary | 5. twice | 6. Tongue |
| 7. small intestine | 8. mouth, small intestine | 9. fatty acids, glycerol |
| 10. Proteins | 11. egestion | 12. two litres |

D. Name the following.

1. incisors 2. permanent teeth 3. tongue
4. peristalsis 5. liver

E. Short answer questions

1. The process of breakdown of complex, insoluble food substances into simple, soluble food substances with the help of digestive juices prepared by the body is called digestion.
2. There are five main steps in the process of nutrition in animals. These are— ingestion, digestion, absorption, assimilation and egestion.
3. A frog procures its food with its long, sticky tongue. When an insect comes near the frog, it pushes out its sticky tongue to catch the insect.
4. The alimentary canal consists of:

(i) Buccal cavity or oral cavity	(ii) Oesophagus or food pipe
(iii) Stomach	(iv) Small intestine
(v) Large intestine ending at the rectum	
(vi) Anus	

5. A tongue performs the following functions :
- (i) It helps in mixing saliva with food.
 - (ii) It helps in pushing and thus, swallowing the food into the food pipe.
 - (iii) It helps in getting the different tastes of food. It has several taste buds that can distinguish four types of tastes in food– salty, sour, bitter and sweet.
 - (iv) It enables us to speak.

F. Long answer questions

1. In ruminants, the stomach is divided into four chambers, i.e., rumen, reticulum, omasum and abomasum. The food that is swallowed goes into the first and the largest chamber of stomach, the rumen. Here, it is partially digested and is called cud. It then goes to the second chamber or the reticulum from where it is returned to the mouth for thorough chewing. After thorough chewing and mixing with the saliva, the rechewed food is swallowed again. It now, bypasses the first two chambers and enters the third and the smallest chamber, the omasum. Here, it is broken down into smaller pieces.

The food then enters the fourth chamber, the abomasum. Here, a kind of gastric juice (containing an enzyme and hydrochloric acid) is secreted and the process of digestion comes to an end.

2. (a) The teeth break the food into small pieces, chew and grind it. Chewing mixes the small pieces of food with saliva. This process is called mastication.

- (b) The saliva contains an enzyme, called amylase, that breaks down the starch present in the food into sugars. Saliva also makes the food wet and slimy so that it can easily be swallowed.

3. (a) When we eat food, small bits of it get stuck between our teeth. Sometimes, these bits of food stay between our teeth if we do not brush our teeth carefully. The bacteria present in our mouth along with the leftover food and the saliva, and form a thin sticky layer called plaque on the surface of teeth. This plaque is not removed by brushing and forms acids with sugar present in the food. These acids affect the tooth enamel. They cause holes or cavities in the enamel. This is called tooth decay.
- (b) Teeth decay can be avoided by the following ways:



- (b) Tooth decay can be avoided by the following ways:
- We should avoid eating too many sweets, ice creams and chocolates.
 - We must brush our teeth at least twice a day – and at night, before going to the bed.
 - We must floss our teeth every day. A dental floss is a special strong thread that is moved back and forth through the spaces between our teeth to remove the food stuck between our teeth that cannot be removed by brushing.
4. (a) The liver is a reddish-brown gland situated in the upper part of the abdomen on the right side. It is the largest gland in the body. It secretes bile juice, that is stored in a sac called the gall bladder. Bile juice helps in the digestion of fats. Fats are present as big droplets in the food because of which they cannot be digested easily. Bile juice breaks these big droplets into small droplets and makes their digestion and absorption easier.
- (b) The pancreas is a large cream-coloured gland located just below the stomach. It secretes pancreatic juice and releases it into the intestine. The pancreatic juice acts on carbohydrates and proteins and changes them into simpler forms.
5. (a) The carbohydrates get broken into simple sugar called glucose.

Carbohydrates (partially digested)	$\xrightarrow[\text{in small intestine}]{\text{Intestinal juice}}$	Glucose (simple sugar)
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- (b) The fats get broken into fatty acids and glycerol.

Fats (small droplets)	$\xrightarrow[\text{in small intestine}]{\text{Intestinal juice}}$	Fatty acids and glycerol
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- (c) The proteins get broken into amino acids.

Proteins (partially digested)	$\xrightarrow[\text{in small intestine}]{\text{Intestinal juice}}$	Amino acids
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- Buccal cavity
 - Stomach
 - Small intestine
 - Large intestine
- Blood carries the absorbed food from the small intestine to different organs of the body where it is used to build complex substances, such as the proteins, required by the body for the growth and repair of body tissues. This is the final stage in the process of digestion and is called assimilation. In the cells, glucose breaks down with the help of oxygen into carbon dioxide and water, and energy is released. Amino acids are used for building and repairing of body parts such as worn out cells and tissues. Fatty acids and glycerol act as energy reserves and are stored under the skin for further use.

