

## Exercise Questions

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## 1. Fill in the blanks:

- (a) The main steps of nutrition in humans are \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_.
- (b) The largest gland in the human body is \_\_\_\_\_.
- (c) The stomach releases hydrochloric acid and \_\_\_\_\_ juices which act on food.
- (d) The inner wall of the small intestine has many finger-like outgrowths called \_\_\_\_\_.
- (e) Amoeba digests its food in the \_\_\_\_\_.

## Solution:

- (a) The main steps of nutrition in humans are **ingestion, digestion, absorption, assimilation** and **egestion**.
- (b) The largest gland in the human body is **liver**.
- (c) The stomach releases hydrochloric acid and **digestive** juices which act on food.
- (d) The inner wall of the small intestine has many finger-like outgrowths called **villi**.
- (e) Amoeba digests its food in the **food vacuole**.

## 2. Mark 'T' if the statement is true and 'F' if it is false:

- (a) Digestion of starch starts in the stomach. (T/F)
- (b) The tongue helps in mixing food with saliva. (T/F)
- (c) The gall bladder temporarily stores bile. (T/F)
- (d) The ruminants bring back swallowed grass into their mouth and chew it for some time. (T/F)

## Solution:

- a) F
- b) T
- c) T
- d) T

## 3. Tick (✓) mark the correct answer in each of the following:

- (a) Fat is completely digested in the  
(i) stomach (ii) mouth (iii) small intestine (iv) large intestine
- (b) Water from the undigested food is absorbed mainly in the  
(i) stomach (ii) food pipe (iii) small intestine (iv) large intestine

## Solution:

- a) (iii) small intestine

b) (iv) large intestine

4. Match the items of Column I with those given in Column II:

Column- I	Column- II
Food components	Product(s) of digestion
Carbohydrates	Fatty acids and glycerol
Proteins	Sugar
Fats	Amino acids

**Solution:**

Column- I	Column- II
Food components	Product(s) of digestion
Carbohydrates	Sugar
Proteins	Amino acids
Fats	Fatty acids and glycerol

5. What are villi? What is their location and function?

**Solution:**

Villi are finger-like projections or outgrowth. They are present in the small intestine of our digestive system. The villi increase the surface area for absorption of the digested food.

**6. Where is the bile produced? Which component of the food does it help to digest?**

**Solution:**

Bile juice is produced in the liver, and it helps in the digestion of fats by breaking large fat globules into smaller ones.

**7. Name the type of carbohydrate that can be digested by ruminants but not by humans. Give the reason also.**

**Solution:**

Cellulose is the carbohydrate that can be digested by ruminants but not by humans because humans lack cellulase enzyme required to digest the cellulose.

**8. Why do we get instant energy from glucose?**

**Solution:**

Glucose is a simple sugar which is easily absorbed into the blood whereas other carbohydrates are first broken down into glucose and then absorbed; hence, glucose gives instant energy.

**9. Which part of the digestive canal is involved in:**

- (i) absorption of food \_\_\_\_\_.
- (ii) chewing of food \_\_\_\_\_.
- (iii) killing of bacteria \_\_\_\_\_.
- (iv) complete digestion of food \_\_\_\_\_.
- (v) formation of faeces \_\_\_\_\_.

**Solution:**

- i) Small intestine
- ii) Buccal cavity
- iii) Stomach
- iv) Small intestine
- v) Large Intestine

**10. Write one similarity and one difference between nutrition in amoeba and human beings.**

**Solution:**

Similarity: Both amoeba and human beings follow the holozoic type of nutrition.

Difference:

Humans intake food through buccal cavity. In amoeba food is ingested through pseudopodia.

11. Match the items of Column I with suitable items in Column II

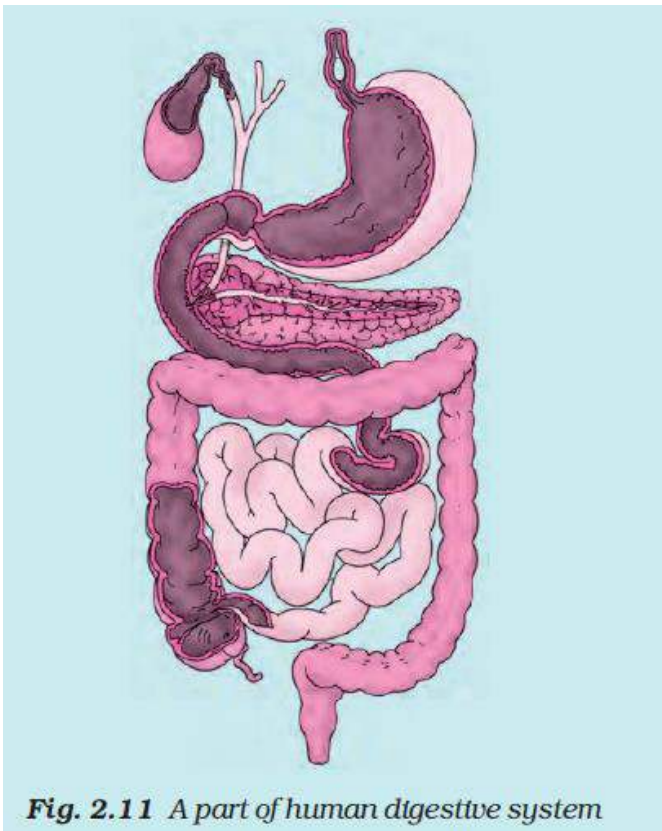
Column-I	Column-II
a) Salivary gland	(i) Bile juice secretion
b) Stomach	(ii) Storage of undigested food
c) Liver	(iii) Saliva secretion
d) Rectum	(iv) Acid release
e) Small intestine	(v) Digestion is completed
f) Large intestine	(vi) Absorption of water
	(vii) Release of faeces

Solution:

Column-I	Column-II
a) Salivary gland	(iii) Saliva secretion
b) Stomach	(iv) Acid release
c) Liver	(i) Bile juice secretion
d) Rectum	(ii) Storage of undigested food

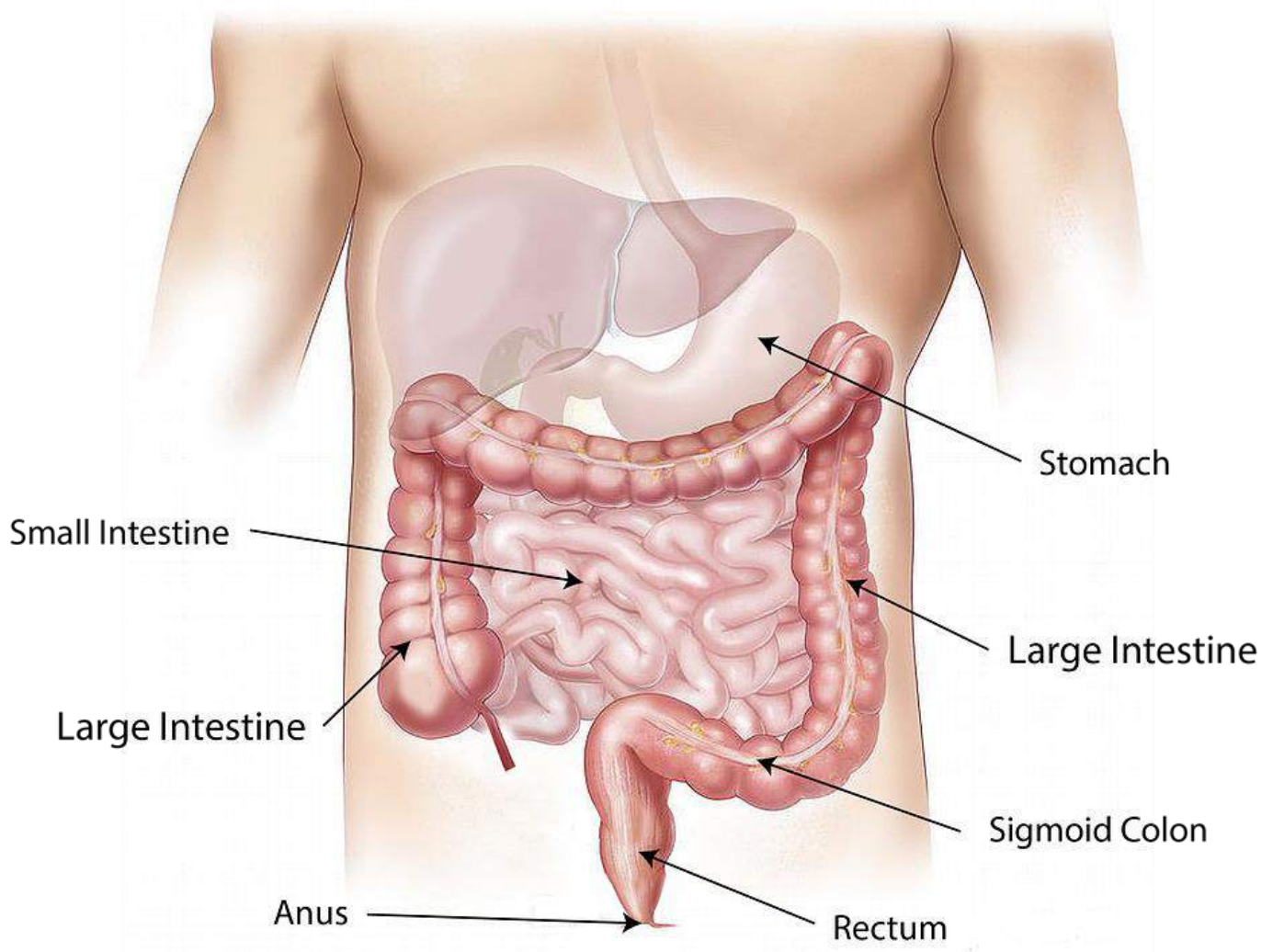
e) Small intestine	(v) Digestion is completed
f) Large intestine	(vi) Absorption of water

12. Label Fig. 2.11 of the digestive system.



**Fig. 2.11** A part of human digestive system

**Solution:**



**13. Can we survive only on raw, leafy vegetables/grass? Discuss.**

**Solution:**

No, we cannot survive only on raw, leafy vegetables because they mainly consist of Cellulose which cannot be digested by us due to lack of cellulose-digesting enzyme in our body.