

1. Short answer questions:

- i. **What are the two ways in which food is broken down during digestion?**

Ans. Food is broken down during digestion through two methods:

Mechanical Digestion: Physically breaking down food into smaller pieces through chewing and muscular contractions.

Chemical Digestion: Using enzymes and chemicals to break down complex food molecules into simpler nutrients.

- ii. **Why do we need to digest our food?**

Ans. We need to digest our food to extract essential nutrients, provide energy and eliminate waste.

- iii. **List the enzymes that are involved in the breakdown of food.**

- Amylase (for carbohydrate digestion)
- Pepsin (for protein digestion)
- Lipase (for fat digestion)

- iv. **In which part of the digestive system is physical digestion carried out?**

Ans. Physical digestion occurs mainly in the mouth and stomach.

- v. **Which two jobs are done by the saliva?**

Ans. Saliva has two main functions.

- It helps moisten and lubricate food to aid in swallowing.
- It contains amylase to initiate the digestion of carbohydrates.

- vi. **What is the name of the organ that produces bile to break down fats?**

Ans. The organ that produces bile to break down fats is the liver.

- vii. **Our bodies cannot digest fiber (cellulose). Why is it still important in our diet?**

Ans: Fiber (cellulose) is important in our diet because it aids in digestion, prevents constipation, and contributes to overall gut and heart health.

2. Long Questions

- i. **Name the three nutrients which are broken down during digestion and state what they are broken down into?**

Ans. Three nutrients broken down during digestion are:

Carbohydrates: Broken down into simple sugars (e.g., glucose).

Proteins: Broken down into amino acids.

Fats: Broken down into fatty acids and glycerol.

ii.

a) What are the most likely causes of constipation?

Ans. Common causes of constipation are a lack of fiber in the diet, insufficient water intake, inactivity, and some medications.

b) How can constipation be cured?

Ans. Constipation can be cured by eating more fiber-rich foods, drinking plenty of water, and staying physically active.

iii.

a) What are the most likely causes of diarrhea?

Ans. Common causes of diarrhea include viral or bacterial infections, food poisoning, dietary intolerance, and certain medications.

b) What can you do to reduce the chances that you will get diarrhea?

Ans. To reduce the chances of getting diarrhea, practice good hand hygiene, consume safe and properly cooked foods, stay hydrated, and avoid food or water sources that may be contaminated when traveling.

iv. **What is the function of mouth, stomach, small and large intestine in digestion?**

Ans. Mouth: The mouth initiates digestion by chewing and mixing food with saliva to break down carbohydrates.

Stomach: The stomach further digests food with acid and enzymes, focusing on proteins.

Small Intestine: The small intestine continues digestion and absorbs nutrients.

Large Intestine: The function of the large intestine is to absorb water and electrolytes from undigested food, forming faeces for elimination.

v. **Glucose molecules do not have to be digested. Starch molecules do. Explain this difference.**

Ans. Glucose is a simple sugar and can be directly absorbed, while starch is a complex carbohydrate made of multiple glucose molecules linked together, so it needs to be broken down into individual glucose molecules during digestion to be absorbed.

vi. **Give the three reasons why the villi in small intestine are perfect for absorbing food?**

Ans. Following are the reasons:

Increased Surface Area: Villi provide a larger surface area for absorption.

Microvilli: Microvilli on villi further increase the surface area.

Rich Blood Supply: Villi have a network of blood vessels to transport absorbed nutrients efficiently.

vii. **What is the difference between chemical and mechanical digestion?**

Chemical Digestion	Mechanical Digestion
Involves enzymes and chemicals.	Involves physical breakdown.
Breaks down complex molecules.	Physically reduces food size.
Occurs inside the body.	Primarily occurs in the mouth, stomach, and intestines.
Salivary glands, stomach, pancreas, and small intestine are the main organs.	Mouth, stomach, and some in the small intestine are involved.

viii. **Explain how are the liver and pancreas involved in digestion?**

Liver: The liver produces bile, which is stored in the gallbladder and released into the small intestine when needed. Bile emulsifies fats, breaking them into smaller droplets, making it easier for digestive enzymes to act on them. This aids in fat digestion and absorption.

Pancreas: The pancreas releases digestive enzymes into the small intestine to break down carbohydrates, proteins, and fats, facilitating nutrient absorption.

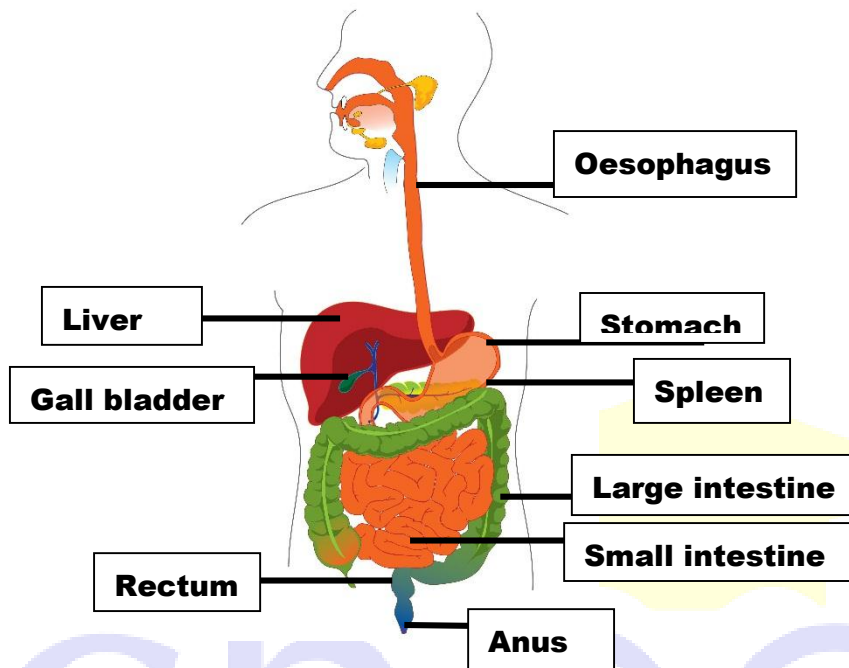
3. Choose the correct answer

i. During digestion, food becomes soluble and passes from the digestive system into the blood. This mainly takes place in the:			
a) Mouth	b) Small intestine	c) Large intestine	d) Rectum
ii. Which of the following plays no part in digestion in humans?			
a) Salivary glands	b) Pancreas	c) Liver	d) Appendix
iii. The lining of the small intestine is covered in thousands of tiny finger-like villi. What job do the villi do?			
a) Push food along			
b) Slow food down			
c) Increase the surface area			
d) Produces enzymes			
iv. Which one of the following is digested in the stomach?			
a) Sugars	b) Proteins	c) Starches	d) Fats
v. The condition in the stomach are:			
a) Alkaline	b) Acidic	c) Basic	d) Neutral

4. Fill in the blanks

- i. Faeces are stored temporarily in the **rectum**.
- ii. The breaking down of large food molecules into smaller ones is known as **digestion**.
- iii. Digestion is completed in **small intestine**
- iv. The path that food takes from the mouth to the anus is called the **alimentary canal**.
- v. Absorption occurs when the nutrients are small enough to pass into **bloodstream**.

5. Label the following diagram:



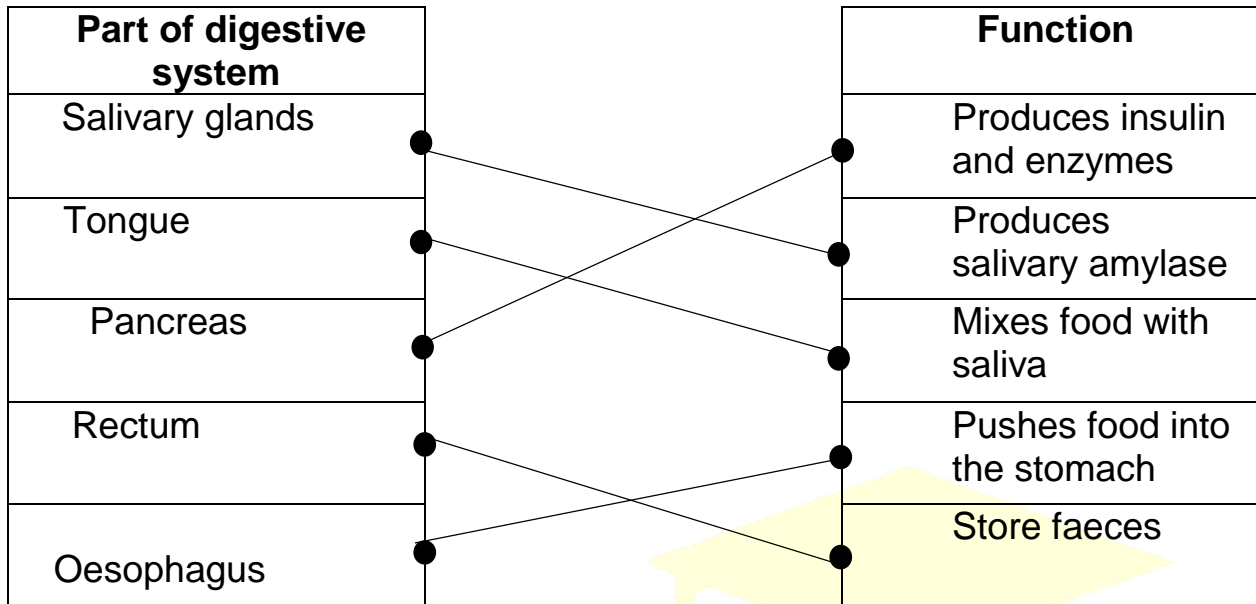
6. True/False

- i. Digestive system is basically a tube 10 metres long
- ii. Bile emulsifies proteins.
- iii. Proteins are body building foods
- iv. Fats are stored as a layer of insulation under the skin.
- v. Faeces are stored in small intestine.

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7. Match the statements

Part of digestive system	Function
Salivary glands	Produces insulin and enzymes
Tongue	Produces salivary amylase
Pancreas	Mixes food with saliva
Rectum	Pushes food into the stomach
Oesophagus	Store faeces



8. Jumbled words.

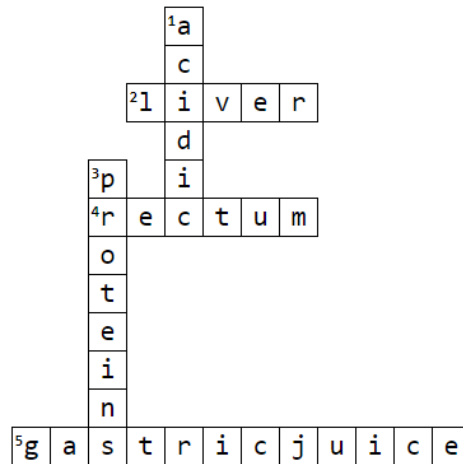
Jumbled words	Arranged words
pendixap	Appendix
headiarrr	Diarrhea
altomes	Maltose
paseli	Lipase
lletgu	Gullet

9. Word Search

Oesophagus	Pancreas	Gall bladder	Large intestine	Alimentary
Appendix	Carbohydrate	Glands	mouth	Digest

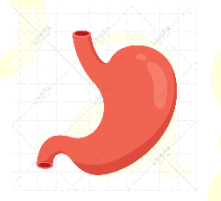
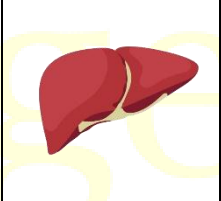
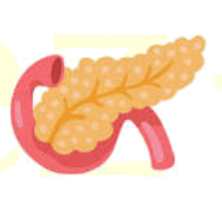
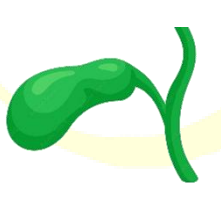
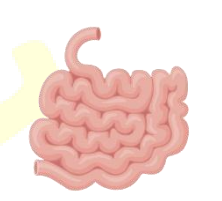
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G	A	L	L	B	L	A	D	D	E	R	W	X	Q	S

10. Cross words



Across	Down
2.regenerate itself	1.conditions in the stomach
4.where faeces are stored	3.body buidling
5.the walls of the stomach secrete	

11. Drag and drop

				
Stomach	Liver	Pancreas	Gall bladder	Small intestine

Organ	Function
Stomach	Produces gastric juice
Liver	Produces bile
Pancreas	Produces enzymes
Gall bladder	Stores bile
Small intestine	Completes digestion

12. Comprehension

Digestion in humans is the process of breaking down food into simpler nutrients for absorption. It starts in the mouth with chewing and saliva, moves to the stomach for further breakdown with digestive enzymes, and is completed in the small intestine. Nutrients are absorbed into the bloodstream, while undigested material is eliminated as faeces. Proper digestion is vital for nutrient absorption and overall health.

- i. **What is digestion?**
Digestion in humans is the process of breaking down food into simpler nutrients for absorption.
- ii. **From where the process of digestion starts?**
It starts in the mouth.
- iii. **Where digestion is completed?**
In small intestine.