

# Digestive System

## Loksewa Exam Preparation Study Notes for CMA ANM

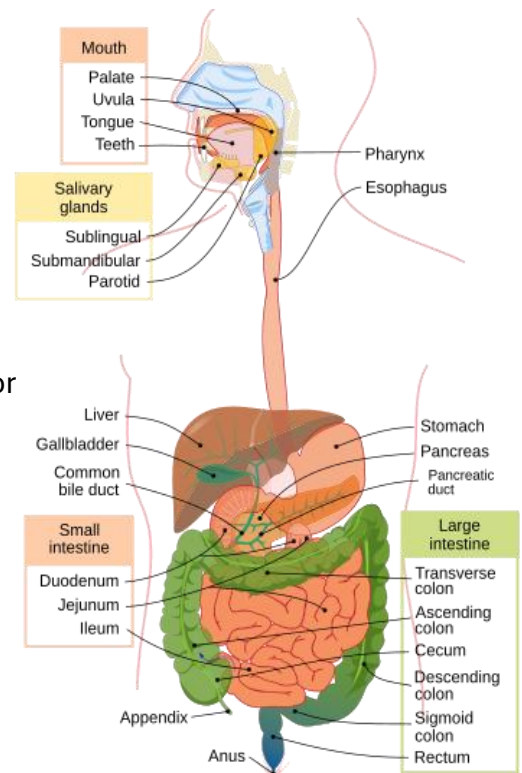
### Introduction

The digestive system is responsible for the breakdown of food, absorption of nutrients, and elimination of waste. It consists of the alimentary canal and associated organs.

## 1. Parts of the Digestive System

### A. Alimentary Canal (GI Tract)

1. **Mouth** – Mechanical digestion (chewing) and chemical digestion (salivary amylase).
2. **Pharynx** – Passage for food and air.
3. **Esophagus** – Transports food to the stomach via peristalsis.
4. **Stomach** – Secretes gastric juice (HCl and pepsin) for protein digestion.
5. **Small Intestine** – Major site of digestion and absorption. Divided into:
  - **Duodenum** – Receives bile & pancreatic enzymes.
  - **Jejunum** – Main site of nutrient absorption.
  - **Ileum** – Absorbs vitamin B12 and bile salts.
6. **Large Intestine** – Water absorption and feces formation.
7. **Rectum & Anus** – Elimination of feces.



### B. Accessory Organs

1. **Salivary Glands** – Secrete saliva containing amylase.
2. **Liver** – Produces bile to emulsify fats.
3. **Gallbladder** – Stores and releases bile.

4. **Pancreas** – Produces digestive enzymes (amylase, lipase, protease) and bicarbonate.
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## 2. Digestive Processes

1. **Ingestion** – Intake of food.
  2. **Propulsion** – Movement of food via swallowing & peristalsis.
  3. **Mechanical Digestion** – Chewing, churning, segmentation.
  4. **Chemical Digestion** – Breakdown of food by enzymes.
  5. **Absorption** – Nutrient uptake into the blood/lymph.
  6. **Defecation** – Elimination of indigestible substances.
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## 3. Digestive Enzymes and Functions

Enzyme	Produced By	Acts On	End Product
Amylase	Salivary glands, pancreas	Starch	Maltose
Pepsin	Stomach	Proteins	Peptides
Lipase	Pancreas	Fats	Fatty acids & glycerol
Maltase	Small intestine	Maltose	Glucose
Trypsin	Pancreas	Proteins	Peptides & amino acids

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## 4. Disorders of the Digestive System

1. **Gastritis** – Inflammation of the stomach lining.
2. **Ulcers** – Sores in the stomach lining due to excess acid.
3. **GERD (Gastroesophageal Reflux Disease)** – Acid reflux causing heartburn.
4. **Hepatitis** – Liver inflammation caused by viruses.
5. **Gallstones** – Hard deposits in the gallbladder.
6. **Diarrhea** – Frequent, watery stools due to infection or malabsorption.

7. **Constipation** – Difficulty passing stool due to low fiber intake.

## Mnemonics for the Digestive System

1. Mnemonic to Remember the **Parts of the Digestive System**:

👉 "Mero Phupu Ekdam Swasth Cha, Samajik Jeevanma Lagi Rahanchha Aaramle"

(Mouth → Pharynx → Esophagus → Stomach → Small Intestine → Jejunum → Large Intestine → Rectum → Anus)

2. Mnemonic to Remember **Digestive Enzymes**:

👉 "Anju Pani Laxmi Mandirma Tikchha"

(Amylase → Pepsin → Lipase → Maltase → Trypsin)

3. Mnemonic for **Major Digestive Disorders**:

👉 "Gaali Gari Hera, Didi Birami Cha"

(Gastritis → Gallstones → Hepatitis → Diarrhea → Bowel Obstruction → Constipation)

4. Mnemonic for **Digestive Process**:

👉 "Indira Padhdai Ma Aakarsit Dekhinchha"

(Ingestion → Propulsion → Mechanical Digestion → Absorption → Defecation)

## MCQs on Digestive System

1. Which of the following is responsible for protein digestion in the stomach?

- a) Amylase
- b) Pepsin
- c) Lipase
- d) Trypsin

**Answer:** b) Pepsin

**Explanation:** Pepsin is secreted in the stomach and breaks down proteins into peptides.

2. Which organ produces bile?

- a) Stomach
- b) Liver
- c) Pancreas

d) Small Intestine

**Answer:** b) Liver

**Explanation:** The liver produces bile, which aids in fat digestion by emulsifying fats.

3. **The main function of the large intestine is:**

a) Absorption of water

b) Protein digestion

c) Enzyme production

d) Fat emulsification

**Answer:** a) Absorption of water

**Explanation:** The large intestine absorbs water and electrolytes, forming solid waste.

4. **Which enzyme digests starch into maltose?**

a) Lipase

b) Amylase

c) Trypsin

d) Pepsin

**Answer:** b) Amylase

**Explanation:** Amylase breaks down starch into maltose in the mouth and small intestine.

5. **Which of the following structures prevents food from entering the windpipe?**

a) Pharynx

b) Esophagus

c) Epiglottis

d) Larynx

**Answer:** c) Epiglottis

**Explanation:** The epiglottis covers the trachea during swallowing to prevent choking.

6. **What is the function of the pancreas in digestion?**

a) Produces bile

b) Produces digestive enzymes

c) Stores food

d) Absorbs nutrients

**Answer:** b) Produces digestive enzymes

**Explanation:** The pancreas secretes amylase, lipase, and protease to aid digestion.

7. **Which of the following is NOT an accessory organ of digestion?**

a) Liver

b) Pancreas

c) Gallbladder

d) Large Intestine

**Answer:** d) Large Intestine

**Explanation:** The large intestine is part of the GI tract, not an accessory organ.

8. **Where does most nutrient absorption occur?**

a) Stomach

b) Small Intestine

c) Large Intestine

d) Esophagus

**Answer:** b) Small Intestine

**Explanation:** The small intestine, especially the jejunum, is the primary site of nutrient absorption.

9. **Which part of the small intestine receives bile and pancreatic juice?**

a) Duodenum

b) Jejunum

- c) Ileum
- d) Colon

**Answer:** a) Duodenum

**Explanation:** The duodenum receives bile from the liver and enzymes from the pancreas.

10. Which enzyme is active in acidic conditions?

- a) Trypsin
- b) Amylase
- c) Pepsin
- d) Lipase

**Answer:** c) Pepsin

**Explanation:** Pepsin is active in the acidic environment of the stomach.

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