CHAPTER 16

DIGESTION AND ABSORPTION

MULTIPLE CHOICE QUESTIONS

- 1. Which of the following is not true of intestinal villi?
 - a. They possess microvilli
 - b. They increase the surface area
 - c. They are supplied with capillaries and the lacteal vessels
 - d. They only participate in digestion of fats
- 2. Hepato-pancreatic duct opens into the duodenum and carries
 - a. Bile
 - b. Pancreatic juice
 - c. Both bile and pancreatic juice
 - d. Saliva
- 3. Which of the following is not a common disorder associated with digestive system?
 - a. Tetanus
 - b. Diarrhoea
 - c. Jaundice
 - d. Dysentery
- 4. A gland not associated with the alimentary canal is
 - a. Pancreas
 - b. Adrenal
 - c. Liver
 - d. Salivary glands
- 5. Match the two columns and select the correct among options given

Column I

Column II

- A. Biomacromolecules of food
- i. Alimentary canal and associated gland
- B. Human digestive system
- ii. Embedded in jawbones.

- C. Stomach
- D. Thecodont

- iii. Outer wall of visceral organs
- iv. Converted into simple substances
- v. J-shaped bag like structure

E. Serosa Options:

- a. A-ii, B-i, C-v, D-iii, E-iv
- b. A-iv, B-i, C-v, D-ii, E-iii
- c. A-i, B-ii, C-iii, D-iv, E-v
- d. A-i, B-iii, C-ii, D-iv, E-v
- 6. Match the two columns and select the right one among options given

Column I

- A. Duodenum
- B. Epiglottis
- C. Glottis
- D. Caecum

- Column II
- i. A cartilaginous flap
- ii. Small blind sac
- iii. 'U' shaped structure emerging from the stomach
- aecum iv. Opening of wind pipe

Options

- a. A-i, B-ii, C-iii, D-iv
- b. A-iv, B-iii, C-ii, D-i
- c. A-iii, B-i, C-iv, D-ii
- d. A-ii, B-iv, C-i, D-iii
- 7. Match the enzyme with their respective substrate and choose the right one among options given

Column I

Column II

- A. Lipase
- B. Nuclease
- C. Carboxypeptidase
- D. Glycoridases
- i. Carbohydrates
- ii. Fats
- iii. Nucleic acids
- iv. Proteins, peptones and proteoses.

Options:

- a. A-ii, B-iii, C-i, D-iv
- b. A-iii, B-iv, C-ii, D-i
- c. A-iii, B-i, C-iv, D-ii
- d. A-ii, B-iii, C-iv, D-i
- 8. Dental formula in human beings is
 - a. 3223
 - 3223
 - b. 2123
 - 2123

- c. <u>1232</u>
 - 1232
- d. 2233
 - 2233
- 9. Liver is the largest gland and is associated with various functions. Choose which is not correct from the following.
 - a. Metabolism of carbohydrate
 - b. Digestion of fat
 - c. Formation of bile
 - d. Secretion of hormone called gasotrin
- 10. Mark the right statement among the following
 - a. Trypsinogen is an inactive enzyme
 - b. Trypsinogen is secreted by intestinal mucosa
 - c. Enterokinase is secreted by pancreas
 - d. Bile contains trypsin

VERY SHORT ANSWER TYPE QUESTIONS

- 1. The food mixes thoroughly with the acidic gastric juice of the stomach by the churning movements of its muscular wall. What do we call the food then?
- 2. Trypsinogen is an inactive enzyme of pancreatic juice. An enzyme, enterokinase, activates it. Which tissue/cells secrete this enzyme?/ How is it activated?
- 3. In which part of alimentary canal does absorption of water, simple sugars and alcohol takes place?
- 4. Name the enzymes involved in the breakdown of nucleotides into sugars and bases?
- 5. Define digestion in one sentence.
- 6. What do we call the type of teeth attachment to jaw bones in which each tooth is embedded in a socket of jaws bones?
- 7. Stomach is located in upper left portion of the abdominal cavity and has three major parts. Name these three parts.
- 8. Does gall bladder make bile?
- 9. Correct the following statements by deleting one of entries (given in bold).

- a. Goblet cells are located in the intestinal mucosal epithelium and secrete **chymotrypsin / mucus**.
- b. Fats are broken down into di- and monoglycerides with the help of **amylase/lipases**.
- c. Gastric glands of stomach mucosa have **oxyntic cell** / **chief cells** which secrete HCl.
- d. Saliva contains enzymes that digest **starch /protein**.

SHORT ANSWER TYPE QUESTIONS

- 1. What is pancreas? Mention the major secretions of pancreas that are helpful in digestion.
- 2. Name the part of the alimentary canal where major absorption of digested food takes place. What are the absorbed forms of different kinds of food materials?
- 3. List the organs of human alimentary canal and name the major digestive glands with their location.
- 4. What is the role of gall bladder? What may happen if it stops functioning or is removed?
- 5. Correct the statement given below by the right option shown in the bracket against them
 - a. Absorption of amino acids and glycerol takes place in the. (small intestine/ large intestine)
 - b. The faeces in the rectum initiate a reflex causing an urge for its removal. (neural /hormonal)
 - c. Skin and eyes turn yellow in infection. (liver /stomach)
 - d. Rennin is a proteolytic enzyme found in gastric juice in (infants / adults).
 - e. Pancreatic juice and bile are released through. (intestine-pancreatic/hepato-pancreatic duct)
 - f. Dipeptides, disaccharides and glycerides are broken down into simple substances in region of small intestine. (jejunum/duodenum)
- 6. What are three major types of cells found in the gastric glands? Name their secretions.
- 7. How is the intestinal mucosa protected from the acidic food entering from stomach?
- 8. How are the activities of gastro-intestinal tract regulated?

- 9. Distinguish between constipation and indigestion. Mention their major causes.
- 10. Describe the enzymatic action on fats in the duodenum.

LONG ANSWER TYPE QUESTIONS

- 1. A person had roti and dal for his lunch. Trace the changes in those during its passage through the alimentary canal.
- 2. What are the various enzymatic types of glandular secretions in our gut helping digestion of food? What is the nature of end products obtained after complete digestion of food?
- 3. Discuss mechanisms of absorption.
- 4. Discuss the role of hepato pancreatic complex in digestion of carbohydrate, protein and fat components of food.
- 5. Explain the process of digestion in the buccal cavity with a note on the arrangement of teeth.