

1. By the action of salivary amylase, the starch gets converted to
(a) glucose (b) fructose
(c) cellulose (d) maltose
2. Lysozyme, one of the constituents of the saliva of human beings acts like
(a) antibacterial agent (b) zymogen
(c) amylase (d) lipase
3. In the stomach, gastric acid is secreted by the **NEET 2016**
(a) parietal cells (b) peptic cells
(c) acidic cells (d) gastrin secreting cells
4. The gastric glands which secrete proenzyme pepsinogen are
(a) mucus neck cells (b) chief cells
(c) parietal cells (d) oxyntic cells
5. Which of the following gastric cells indirectly help in erythropoiesis? **NEET 2018**
(a) Goblet cells (b) Mucous cells
(c) Chief cells (d) Parietal cells
6. What name would you suggest for a thoroughly mixed food with the gastric juices by the churning movements of the muscular stomach wall?
(a) Bolus (b) Chyme
(c) Either bolus or chyme (d) None of these
7. Pepsinogen (inactive form) is converted into active form of enzyme pepsin with the help of which of the following compounds?
(a) Proenzyme (b) Hydrochloric acid
(c) Electrolyte (d) Bicarbonates
8. HCl is highly acidic (1.5-2.0 pH) in the stomach. However, the epithelium of the mucosa remains unaffected/undissolved. Why?
(a) Mucus continues to lubricate the inner lining
(b) Bicarbonates present in the gastric juices protect the linings
(c) Both (a) and (b)
(d) None of the above
9. Which enzyme is responsible for the digestion of milk in infants?
(a) Pepsin (b) Trypsin
(c) Rennin (d) Various proteolytic enzymes
10. Gastric juice of infants contains **CBSE-AIPMT 2015**
(a) maltase, pepsinogen, rennin
(b) nuclease, pepsinogen, lipase
(c) pepsinogen, lipase, rennin
(d) amylase, rennin, pepsinogen
11. The initial step in the digestion of milk in humans is carried out by **CBSE-AIPMT 2014**
(a) lipase (b) trypsin
(c) rennin (d) pepsin
12. The secretions released into the small intestine are
(a) bile and pancreatic juice
(b) succus entericus only
(c) pancreatic juice, bile and intestinal juice
(d) pancreatic juice and intestinal juice
13. The enzyme enterokinase secreted by intestinal mucosa helps in the conversion of
(a) caseinogen into casein
(b) trypsinogen into trypsin
(c) pepsinogen into pepsin
(d) proteins into polypeptides
14. All the inactive enzymes of the pancreatic juice are activated by
(a) trypsin (b) cholecystokinin
(c) bilirubin (d) pepsin
15. What is the composition of bile?
(a) Bile pigments and bile salts
(b) Bile pigments and cholesterol
(c) Cholesterol and phospholipids
(d) All of the above
16. Bile is composed of bile salts and bile pigments which are
(a) sodium glycocholate, taurocholate and bilirubin, biliverdin, respectively
(b) bilirubin, biliverdin and sodium glycocholate, taurocholate, respectively
(c) sodium glycocholate, taurocholate and bilirubin, respectively

(d) sodium glycocholate, taurocholate and biliverdin, respectively

17. Succus entericus is composed of secretions of

- (a) goblet cells and brush border cells
- (b) parietal cells and peptic cells
- (c) goblet cells and chief cells
- (d) oxyntic cells, peptic cells and goblet cells

18. The enzyme that is not present in succus entericus is **CBSE-AIPMT 2015**

- (a) maltase
- (b) nucleases
- (c) nucleosidase
- (d) lipase

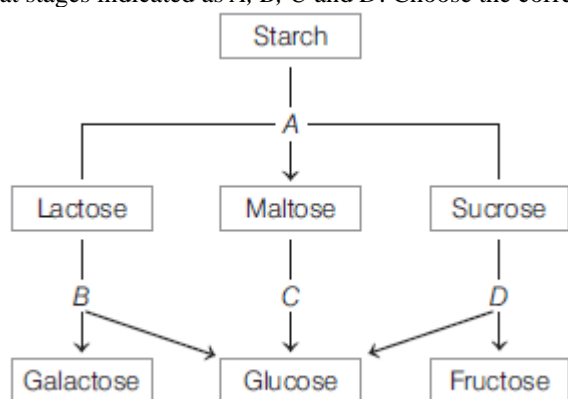
19. The enzymes present in succus entericus are

- (a) functional in acidic medium (pH 2.3) provided by HCl secreted by oxyntic cells
- (b) functional regardless of pH of the medium
- (c) functional in alkaline medium (pH 7.8) provided by mucus and bicarbonates from pancreas
- (d) functional at neutral pH 7.0 only

20. Which hormones do stimulate the production of pancreatic juice and bicarbonate? **NEET 2016**

- (a) Angiotensin and epinephrine
- (b) Gastrin and insulin
- (c) Cholecystokinin and secretin
- (d) Insulin and glucagon

21. The following is a scheme showing the fate of carbohydrates during digestion in the human alimentary canal. Identify the enzymes acting at stages indicated as A, B, C and D. Choose the correct option.



- (a) A–Amylase, B–Maltase, C–Lactase, D–Sucrase
- (b) A–Amylase, B–Maltase, C–Invertase, D–Lactase
- (c) A–Amylase, B–Invertase, C–Maltase, D–Lactase
- (d) A–Amylase, B–Lactase, C–Maltase, D–Sucrase

22. Hydrolysis of maltose gives rise to

- (a) two molecules of glucose
- (b) two molecules of galactose
- (c) onemolecule of glucose and onemolecule of galactose
- (d) one molecule of glucose and one molecule of fructose

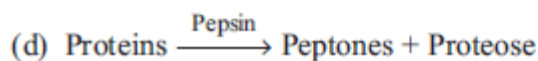
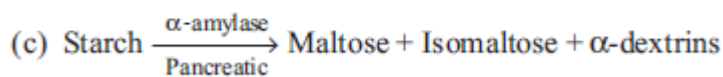
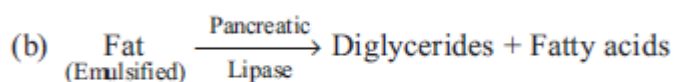
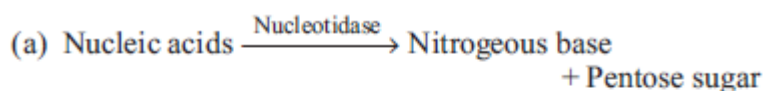
23. Enzyme sucrase hydrolyses sucrose into

- (a) glucose and galactose
- (b) glucose and fructose
- (c) two molecules of glucose
- (d) two molecules of fructose

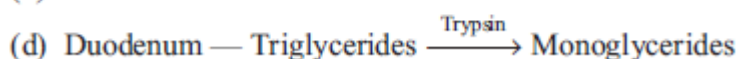
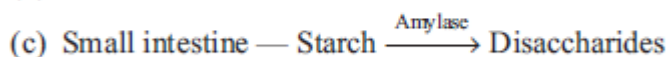
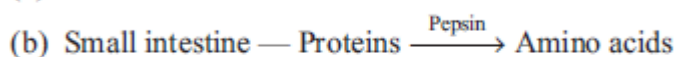
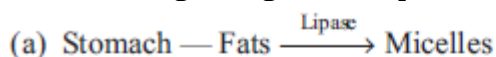
24. The enzyme and intermediate molecule formed by the breakdown of fats into monoglycerides are

- (a) Lysozyme; Polyglycerides
- (b) Lysozyme; Diglycerides
- (c) Lipase; Diglycerides
- (d) Lipase; Polyglycerides

25. Which one of the following enzymatic reaction is incorrect?



26. Which one of the following equation matches correctly with the action of enzymes on the given substrate and regarding the end product of the reaction?



27. Hydrolysis of milk sugar gives rise to

- (a) two molecules of lactose
- (b) two molecules of glucose
- (c) one molecule of glucose and one molecule of fructose
- (d) one molecule of glucose and one molecule of galactose

28. The breakdown of biomacromolecules and their subsequent absorption, respectively occur in

- (a) small intestine and large intestine
- (b) duodenum; jejunum and ileum
- (c) duodenum and jejunum; ileum
- (d) stomach and small intestine

29. Which one of the following options contains the correct pair of the substances absorbed and secreted by large intestine?

	Absorbed substances	Secretion
(a)	Water, minerals and drugs	Mucus
(b)	Water	Drugs and minerals
(c)	Mucus and minerals	Water
(d)	Water and mucus	Drugs

30. Which action of digestive enzyme is/are correct regarding its site of action, substrate and the end product?

	Enzyme	Site of action	Substrate	End product
I.	Rennin	Adult stomach	Starch	Maltose
II.	Pepsin	Human's stomach	Proteins	Two or more molecules of amino acids
III.	Nuclease	Small intestine	Nucleosides	Nucleosides and $i\text{PO}_4$
IV.	Enterokinase	Small intestine	Trypsinogen	Trypsin

- (a) All actions are correct
- (b) Actions I, II and III are correct
- (c) Actions I, II and IV are correct
- (d) Only action IV is correct

1. (d) The action of salivary amylase on starch yields a disaccharide, i.e. maltose.
2. (a)
3. (a) In the stomach, the gastric acid (HCl) is secreted by the parietal cells of the gastric gland. It makes the medium of food in stomach acidic for the stimulation of the proteolytic enzymes.
4. (b)
5. (d) Parietal cells (oxyntic cells) secrete hydrochloric acid and Castle's intrinsic factor. HCl converts iron (in diet) from ferric to ferrous form which can be easily absorbed and used during erythropoiesis (formation of RBCs). Thus, parietal cells indirectly help in erythropoiesis.
6. (b) The food mixes thoroughly with the acidic gastric juice present in the stomach by the churning movements of its muscular walls to form chyme.
7. (b) Proenzymes (inactive form of enzyme) or zymogens secreted by the chief cells or zymogenic cells of gastric glands are activated by the HCl secreted by the oxyntic or parietal cells of the gastric glands. Thus, the inactive pepsinogen gets converted into its active form pepsin by the action of HCl.
8. (c) The mucus and bicarbonates present in the gastric juice play an important role in lubrication and protection of the mucosal epithelium from excoriation by highly concentrated hydrochloric acid.
9. (c)
10. (c) Gastric juice of infants contains pepsinogen, lipase, rennin. Rennin is a proteolytic enzyme synthesised by stomach which coagulates milk. Lipase enables breakdown of fats into monoglycerides. Pepsinogen gets converted to its active form pepsin which enables breakdown of proteins into smaller peptides.
11. (d) In humans, milk protein digesting enzyme is pepsin. In the initial step of milk digestion, pepsin acts on water soluble 'caseinogen (milk protein) to form soluble 'casein'. This combines with calcium salts to form insoluble calcium paracaseinate, which gets readily digested by enzymes.
12. (c)
13. (b)
14. (a)
15. (d) Bile is a watery fluid, composed of bile salts (Na glycocholate and Na taurocholate), bile pigments (bilirubin and biliverdin), sodium bicarbonate, cholesterol, phospholipid, mucin, lecithin fats, etc.
16. (a)
17. (a)
18. (b) Nuclease enzymes are present in the pancreatic juice and enable the breakdown of nucleic acids into nucleotides. Succus entericus or intestinal digestive juice contains a variety of enzymes like disaccharidases, e.g. maltase, lipase, dipeptidases, nucleosidases but not nuclease.
19. (c)
20. (c) Cholecystokinin (CCK) and secretin are the peptide hormones which stimulate the production of pancreatic juice and bicarbonates within the alimentary canal. Secretin acts on the exocrine part of the pancreas and stimulates the secretion of water and bicarbonate ions. CCK acts on both pancreas as well as gall bladder and stimulates the secretion of pancreatic enzymes and bile juice, respectively.
21. (d)
22. (a) Maltose is a disaccharide and gives rise to two molecules of glucose on hydrolysis in the presence of maltase enzyme. This reaction occurs in the small intestine.

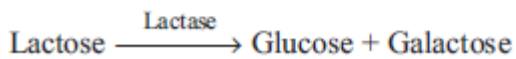
23. (b)
24. (c)
25. (a)
26.

(c) Option (c) contains the correct match. Other options can be corrected as

- Stomach–Fats $\xrightarrow{\text{Lipase}}$ Diglycerides \rightarrow Monoglycerides
- Stomach–Proteins $\xrightarrow{\text{Pepsin}}$ Peptones, Proteoses
- Duodenum–Proteins/peptones $\xrightarrow{\text{Trypsin}}$ Dipeptides

27.

(d) The milk sugar is lactose. The enzyme lactase hydrolyses lactose into glucose and galactose in the small intestine.



28. (b)
29. (a)
30. (d) Option IV is correct. Rest options are incorrect and can be corrected as

1 Rennin found in infant's stomach helps in the digestion of milk proteins.

1 Pepsin converts proteins to peptones and proteoses.

1 Nuclease in pancreatic juice acts on nucleic acids to break them down to nucleotides.