

DIGESTION & ABSORPTION

1. In which part of body enterogastrin is secreted?
(A) Duodenal Mucosa
(B) Enteroendocrine cells
(C) I-cells in the lining of the duodenum
(D) stomach

2. A hormone that control closure of stomata in response to water stress is
(a) Cytokinin (b) Gibberallins
(c) Auxin (d) Absciscic acid

3. One of the following is needed for the conversion of trypsinogen into trypsin
(A) HCl (B) Enterokinase
(C) Lipase (D) Zymase

4. Wound healing is enhanced by a vitamin
(A) A (B) C (C) D (D) E

5. The intestine is different from the stomach by the presence of
(A) Digestive gland (B) Villi
(C) Sub-mucosa (D) Serosa

6. In the empty stomach, mucosal folds appear. They are called

- | | |
|--------------|------------------|
| (A) Foveoles | (B) Antricularis |
| (C) Rugae | (D) None |

7. Which of the following carries glucose from digestive tract to liver

- | | |
|-------------------------|-------------------------|
| (A) Hepatic artery | (B) Pulmonary vein |
| (C) Hepatic portal vein | (D) Renal portal system |

8. Which of the following sugars is absorbed from the small intestine by facilitated diffusion

- | | |
|--------------|-------------|
| (A) Fructose | (B) Glucose |
| (C) Sucrose | (D) Lactose |

9. Secretin hormone is secreted by

- | | |
|---------------|----------------------|
| (A) Liver | (B) Pancreas |
| (C) Intestine | (D) Brunner's glands |

10. Excessive stimulation of vagus nerve in humans may lead to

- | |
|-------------------|
| (A) Hoarse voice |
| (B) Peptic ulcers |

- (C) Efficient digestion of proteins
- (D) Irregular contractions of diaphragm

11. A triglyceride molecule has

- (A) Three fattyacids with one glycerol molecule
- (B) Three fattyacids with two glycerol molecule
- (C) Two fattyacids with two glycerol molecules
- (D) One fattyacid with one glycerol molecule

12. Select the mismatch between a vitamin and its deficiency disease, among the following

- (A) Riboflavin-slow clotting of blood
- (B) Niacin-damage to skin and lining of intestine
- (C) Ascorbic acid-scurvy
- (D) Thiamine-damage to nerves and heart.

13. Which of the following pair is characterised by swollen lips, thick pigmented skin of hands and legs and irritability

- | | |
|------------------|---------------|
| (A) Iodine | – Goitre |
| (B) Protein | – Kwashiorkor |
| (C) Thiamine | – Beri-Beri |
| (D) Nicotinamide | – Pellagra |

14. Hunger is lost in fever

- (A) Due to increased body temperature
- (B) Due to medicines taken by patient

- (C) As the hunger centre is excited
- (D) None of these

15. Feeling of thirst is due to

- (A) Fever
- (B) Exercise
- (C) Fall in glucose level
- (D) All the above

16. Oblique muscle layer of alimentary canal is present

- (A) in between serosa and sub mucosa of stomach
- (B) in between sub mucosa and mucosa of stomach
- (C) between serosa and longitudinal muscle layer of small intestine.
- (D) below the mucosal layer

17. All of the following are true of secretions from the salivary glands, except that they

- (A) Help to control bacterial population in the mouth.
- (B) Help to lubricate the oral cavity and its contents.
- (C) Contain enzymes for the digestion of complex carbohydrates.
- (D) Contain enzymes for the digestion of simple sugars.

18. The innermost layer lining the lumen of the alimentary canal is the mucosa. This layer forms irregular folds in the stomach called

- (A) Villi
- (B) Microvilli

(C) Chonchae

(D) Rugae

19. Water is absorbed in the jejunum ileum and colon and excreted in the feces. Arrange these in order of the amount of water absorbed or excreted from greatest to smallest.

(A) Colon; jejunum, ileum, feces

(B) Feces, colon, ileum, jejunum

(C) Jejunum, ileum, colon, feces

(D) Colon, ileum, jejunum, feces

20. What type of activity cannot be expected in oral cavity during digestion of starch?

(1) Formation of bolus

(2) Formation of monosaccharide

(3) Presence of electrolytes like K^+ , and HCO_3^-

(4) Presence of all the types of digestive amylases

(A) 1, 2, 3, 4

(B) 2, 4 only

(C) 1, 3 only

(D) 2 only

21. Each of the following is a function of the liver, except

(A) Synthesis and secretion of bile

(B) Antibody production

(C) Synthesis of plasma proteins

(D) Storage of glycogen and lipid reserves

22. From outer to inner the location of Auerbach's plexus in the T.S. of stomach wall is
- (A) Longitudinal muscle fibre–Auerbach's plexus–Circular muscle fibre.
 - (B) Circular muscle fibre–Auerbach's plexus–Longitudinal muscle fibre.
 - (C) Sub mucosa–Auerbach's plexus–Longitudinal muscle fibre.
 - (D) Sub mucosa– Auerbach's plexus–Circular muscle fibre.
23. All of the following statements concerning the esophagus are true EXCEPT
- (A) The esophagus is a muscular tube, 25 cm in length that originates at the laryngopharynx and ends at the stomach
 - (B) The esophagus transports food from the oral cavity to the stomach by peristalsis
 - (C) The esophagus produces mucus and digestive enzymes to initiate the breakdown of proteins
 - (D) The lower esophageal sphincter muscle contracts to prevent regurgitation of gastric contents
24. Protective principles of food constitute
- (A) Minerals, Vitamins and water
 - (B) Minerals and vitamins only
 - (C) Vitamins only
 - (D) Vitamins and proteins only

25. A good source of lipase is

(A) Saliva

(B) Gastric juice

(C) Bile

(D) Pancreatic juice

26. The number of teeth that grow twice in human life is

(A) 4

(B) 12

(C) 20

(D) 28

27. Which one of the following statements is true regarding digestion and absorption of food in humans?

(A) Oxyntic cells in our stomach secrete the proenzyme pepsinogen.

(B) About 60% of starch is hydrolyzed by salivary amylase in our mouth.

(C) Fructose and amino acids are absorbed through intestinal mucosa with the help of carrier ions like Na^+ .

(D) Chylomicrons are small lipoprotein particles that are transported from intestine into blood capillaries.

28. _____ are arranged within a lobule of the liver into a series of plates radiating outward from a central vein

(A) Kupffer's cells

(B) Hepatocytes

(C) Bile canaliculi

(D) Hepatic ducts

29. Mark the incorrect statement w.r.t bile juice

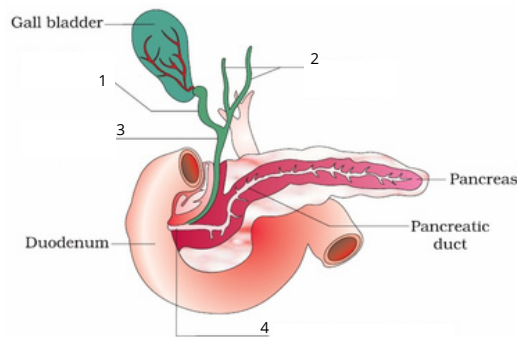
- (A) Bile is yellowish green alkaline solution with large amount of water.
- (B) Bile released into the duodenum contains Biluribin and Biliverdin.
- (C) Bile contains enzymes for digesting lipids.
- (D) Bile emulsifies fats into small micelles.

30. Mark the wrong match?

	Structure	Function
(A)	Caecum	Small blind sac which hosts some symbiotic micro-organisms.
(B)	Vermiform appendix	A narrow finger like tubular projection, which is a vestigial organ.
(C)	Descending part of colon	Opens into the rectum which opens out through the anus.
(D)	Stomach	Located in the lower right portion of the abdominal cavity.

31. Where can we find Brunner's glands in the alimentary canal and also match it with its characteristic feature?
- (A) Serosa → outermost layer of alimentary canal made up of a thin mesothelium with some connective tissue.
 - (B) Muscularis → it is formed by smooth muscles usually arranged into an inner longitudinal and outer circular layer.
 - (C) Submucosal layer of duodenum → formed of loose connective tissue, containing nerves, blood, and lymph vessel.
 - (D) Mucosal layer → It forms rugae in stomach and villi in the small intestine.
32. Which of the following statements is incorrect? Saliva
- (A) Is essential for the complete digestion of starch.
 - (B) Prevents dental caries.
 - (C) Is a well-buffered solution that tends to maintain a pH of about 7.0 in the mouth.
 - (D) Contains an enzyme that begins digestion of polysaccharides.

33. In the given diagram cystic duct and common bile duct are



(A) 1 and 4

(B) 2 and 3

(C) 1 and 3

(D) 4 and 2

34. Mark the correct statement regarding Glisson's capsule?

(A) It is made up of thin connective tissue.

(B) It is covering around the lobes of liver.

(C) It is the covering around each lobule.

(D) Both (A) and (C)

35. Without functioning parietal cells, which of the following would you expect for an individual?

(A) Not to be able to initiate protein digestion in the stomach

(B) Not to be able to initiate mechanical digestion in the stomach

(C) Only to be able to digest fats in the stomach

(D) Not to be able to produce pepsinogen

36. Mark the correct statement for lacteal channels

- A. These are present within the mucosal fold of complete alimentary canal, starting from oesophagus to large intestine.
- B. These are specialized blood capillaries present within the mucosal fold of small intestine
- C. It is another name of lymphatic vessels, present in ileum
- D. These carry chylomicrons from blood vessels to lymphatic vessels

(A) A, B, C, D

(B) B, C, D only

(C) C, D only

(D) C only

37. Which of the following is correct regarding digestive glands?

- (1) Some of them are present within the alimentary canal.
- (2) All of the major salivary glands are present outside the buccal cavity.
- (3) Digestive glands include liver.
- (4) Digestive glands always secrete inactive enzymes.

(A) 1, 2, 3, 4

(B) 1, 3 only

(C) 1, 2, 3 only

(D) 1 only

38. Which of the following is/are not present in acidic chyme of stomach?

- | | |
|-------------------|---------------------|
| (1) Disaccharides | (2) Polysaccharides |
| (3) Peptones | (4) Nucleotides |
| (A) 1, 2, 3, 4 | (B) 2, 4 only |
| (C) 4 only | (D) 1, 2 4 only |

39. Mark the wrong match?

- (A) Intrinsic factor secreted by parietal cells → Essential for absorption of vitamins B12.
- (B) Bile → activates lipases.
- (C) Succus entericus → digestion of nucleic acid into nucleotides.
- (D) Enterokinase → secreted by intestinal mucosa activates trypsinogen into trypsin.

40. Which of the following property is not related to stomach?

- (A) Churning movement
- (B) Formation of chyme
- (C) Presence of pepsin and rennin as proteolytic enzyme
- (D) Presence of lymphatic vessels in its mucosal fold called rugae.

41. How does the digestion and absorption of fat differ from that of carbohydrates?
- (A) Processing of fat does not require any digestive enzymes, whereas the processing of carbohydrates does.
 - (B) Fat absorption occurs in the stomach, whereas carbohydrates are absorbed from the small intestine.
 - (C) Carbohydrates need to be emulsified before they can be digested, whereas fats do not.
 - (D) Most absorbed fat first enters the lymphatic system, whereas carbohydrates directly enter the blood.
42. Which of the following activity is not related to the function of large intestine?
- (A) absorption of some water, minerals and certain drugs
 - (B) secretion of mucus
 - (C) formation of chylomicrons
 - (D) all of these
43. What are the symptoms common for marasmus and kwashiorkor?
- 1. Thinning of limbs
 - 2. Failure of growth and bone development
 - 3. Skin becomes dry thin and wrinkled
 - 4. Extensive oedema
- (A) 1, 2, 3, 4
 - (B) 1, 2 only
 - (C) 3 only
 - (D) 4 only

44. A decrease in which of the following would be expected in a child exhibiting a congenital absence of enterokinase?

- (A) Bile acid absorption
(B) Glucose absorption
(C) Gastric pH
(D) Protein digestion

45. In human beings monophyodont teeth are

- (A) 6 premolars + 6 molars
(B) 8 premolars + 4 molars
(C) 4 premolars + 8 molars
(D) 12 premolars + 8 molars

ANSWERS

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
D	D	B	B	B	C	C	A	D	B	A	A	D	A	D	
16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
A	D	D	C	B	B	A	C	A	D	C	A	B	C	D	
C	A	C	D	A	D	C	C	C	D	D	C	B	D	B	

SOLUTIONS

- Enterogastrone is a peptide hormone that is secreted by the duodenal mucosa. It is secreted into the duodenum when the intestine contains sugars and protein and fatty food.

2. Abscic acid (ABA) is a plant hormone. ABA functions in many plant growth processes, including lethargy of seeds and buds, organ size control and abdominal closure. In the
3. presence of enterokinase, inactive trypsinogen is converted into active trypsin. Vitamin C promote wound healing.
4. Intestinal villi are mainly concerned with absorption. Villi
5. are absent in stomach. Empty stomach is lined with folds called ragae. The blood carries from digestive tract to liver
6. through hepatic portal vein the blood which comes from the
7. digestive tract contains absorbed food like glucose and amino acids. Glucose and galactose are absorbed by active transport. Fructose is absorbed by facilitated diffusion.

8.

11. Triglyceride molecule completely hydrolyzed into three molecules of fatty acid + one molecule of glycerol.
12. Riboflavin (vitamin B2) causes cheilosis, which is characterized by inflammation and cracking at the angles of the mouth.
13. Pellagra is a disease caused by the deficiency of nicotinamide or nicotinic acid or niacin or vitamin B3. It is frequent among people eating food with low tryptophan content. The symptoms of pellagra are inflammation of skin, diarrhoea and dementia.

14. Hunger centre is excited with a moderate decrease in body temperature and as the body temperature is increased in fever, so hunger is lost.
15. Because due to increased concentration of blood plasma functioning of the salivary gland stop and saliva secretion is checked and cell lose water themselves and we feel thirsty.