

## Digestive Lecture Test Questions – Set 4

1. Which of the following is not associated directly with the small intestine:
  - a. villi
  - b. circular folds
  - c. microvilli
  - d. haustrae
  - e. secretin
  
2. The largest (longest) organ or organ portion of the following is:
  - a. esophagus
  - b. ileum
  - c. duodenum
  - d. colon
  - e. jejunum
  
3. The small intestine has the following modification of its wall to increase the absorptive surface area:
  - a. valvulae conniventes (circular folds)
  - b. villi
  - c. microvilli (brush border)
  - d. all three of the above are present
  - e. it has no such modifications, since the above are in the large intestine
  
4. A hormone from the intestinal mucosa, which stimulates water- and buffer-rich pancreatic juice secretion, is:
  - a. gastrin
  - b. secretin
  - c. cholecystokinin-pancreozymin
  - d. intrinsic factor
  - e. chyme
  
5. The most alkaline region of the small intestine should be the:
  - a. duodenum
  - b. jejunum
  - c. ileum
  - d. cecum
  - e. pylorus
  
6. Where does final hydrolysis to the smallest molecules occur:
  - a. stomach
  - b. small intestinal lumen
  - c. microvilli of small intestinal lining
  - d. ascending colon
  - e. pancreas

7. Which of the following is not one of the microvillus membrane enzymes:
  - a. aminopeptidases
  - b. nucleotidases
  - c. disaccharidases
  - d. phosphatases
  - e. lipases
  
8. Which of the following substances is absorbed primarily into the lymphatic capillaries (lacteals) in the intestinal villi:
  - a. glucose
  - b. glycerol and fatty acids
  - c. galactose
  - d. amino acids
  - e. water
  
9. More nutrient absorption occurs within the:
  - a. stomach--pyloric
  - b. stomach--body
  - c. transverse colon
  - d. ileum
  - e. duodenum
  
10. Which of the following is not a component of pancreatic juice:
  - a. water
  - b. proteases
  - c. bicarbonate
  - d. enterokinase
  - e. lipases
  
11. Which of the following is not present in pancreatic juice:
  - a. disaccharidases
  - b. amylase
  - c. lipases
  - d. peptidases
  - e. buffers
  
12. Bile performs what function:
  - a. smaller polypeptide hydrolysis
  - b. lipid emulsification
  - c. lubrication
  - d. egestion
  - e. none of the above
  
13. In the small intestine fats are initially reduced to smaller particles by:
  - a. lipase
  - b. secretin
  - c. intestinal amylase
  - d. bile

- e. nucleotidase
14. The gallbladder:
- a. produces bile
  - b. is attached to the pancreas, directly
  - c. stores and releases bile, which has been produced in the liver
  - d. empties into the liver
  - e. is the distal portion of the pancreas
15. If there were a deficiency of bile salts a significant digestive consequence would be insufficient:
- a. vitamin B<sub>12</sub> absorption
  - b. lipid hydrolysis
  - c. peptide hydrolysis
  - d. activation of proteases
  - e. starch hydrolysis
16. Nucleases are responsible for:
- a. emulsifying fats
  - b. hydrolyzing polynucleotides to nucleotides
  - c. activating proteases
  - d. activating lipases
  - e. hydrolyzing disaccharides to monosaccharides
17. Cooperative muscle responses between the stomach and small intestine:
- a. enterogastric reflex
  - b. segmentation
  - c. emulsification
  - d. egestion
  - e. deglutition
18. Which of the following hydrolytic enzymes releases amino acids:
- a. trypsin
  - b. chymotrypsin
  - c. pepsin
  - d. amylopsin
  - e. carboxypeptidase
19. Which of the following hydrolyses proteins and larger polypeptides to smaller peptides:
- a. pepsinogen
  - b. amylase
  - c. trypsin
  - d. aminopeptidase
  - e. gastrin

20. The most acidic region of the small intestine should be:
- duodenum
  - ileum
  - colon
  - jejunum
  - gallbladder
21. Which of the following hydrolyses proteins and larger polypeptides into smaller peptides:
- pepsin
  - amylase
  - trypsinogen
  - aminopeptidases
  - gastrin
22. Trypsin, as well as other proteases and general lipases, are secreted in an inactive form because they:
- are too large to pass through a cell membrane when fully formed
  - like all proteins, can only be released in this way
  - are not ionized, therefore are insoluble until activation
  - would hydrolyze the cells which produced them
  - are the only enzymes which are not proteins
23. Which of the following hydrolyses peptides into free amino acids:
- maltase
  - aminopeptidases
  - steapsin
  - amylopsin
  - chymotrypsin
24. The principal component of intestinal juice:
- proteases
  - lipases
  - ptyalin
  - mucus
  - secretin
25. A hormone from the intestinal mucosa, which stimulates enzyme-rich pancreatic juice and bile release:
- gastrin
  - secretin
  - cholecystokinin (CCK)
  - intrinsic factor
  - chyme

26. Which of the following is not involved in protein hydrolysis, directly or indirectly:
- steapsin
  - pepsin
  - trypsin
  - chymotrypsin
  - hydrochloric acid
27. Which of the following is not located within the small intestine:
- villi
  - parietal cells
  - circular folds
  - chyme
  - absorptive cells
28. A deficiency in which hormone would produce pancreatic juice of the wrong pH:
- GIP
  - histamine
  - gastrin
  - cholecystokinin
  - secretin
29. The function of aminopeptidases:
- hydrolyze disaccharides to simple sugars (monosaccharides)
  - hydrolyze small peptides to amino acids
  - emulsify fats
  - denature proteins
  - convert inactive proteases to their active forms
30. Bile salts are to lipid digestion as:
- gastrin is to secretin
  - saliva is to gastric juice
  - amylase is to carbohydrate digestion
  - HCl is to protein digestion
  - intrinsic factor is to Vitamin B<sub>12</sub>
31. In what form do absorbed lipids pass into lacteals:
- cyclomicrons
  - micelles
  - cholesterol
  - bile
  - nucleases
32. The most common method of absorption for non-lipid nutrients:
- direct active transport

- b. facilitated diffusion
  - c. co-transport with Na<sup>+</sup>
  - d. co-transport with water
  - e. bound with micelles
33. Maltose is hydrolyzed to free glucose by:
- a. nuclease
  - b. sucrase
  - c. maltase
  - d. pepsin
  - e. amylase
34. Mucus in the digestive tract functions for:
- a. lubrication
  - b. starch hydrolysis
  - c. protein hydrolysis
  - d. lipid hydrolysis
  - e. buffering
35. Which of the following does not secrete mucous:
- a. esophageal wall
  - b. salivary glands
  - c. cardiac glands (including gastric pits)
  - d. pancreatic acini
  - e. duodenal (Brunner's) glands
36. Amylase is produced by or is active in all of the following except:
- a. colon
  - b. mouth
  - c. small intestine
  - d. stomach
  - e. pancreas
37. Starch is hydrolyzed (or continues hydrolysis) in all major parts of the digestive tract except:
- a. colon
  - b. stomach
  - c. mouth
  - d. duodenum
  - e. ileum
38. Carbohydrates are digested by:
- a. peptidases, carboxypeptidases, trypsin and chymotrypsin
  - b. amylase, maltase, lactase and sucrase
  - c. lipases
  - d. peptidases, lipases and lactase
  - e. none of the above
39. The final breakdown products of carbohydrate digestion are primarily:

- a. monosaccharides
  - b. amino acids
  - c. monoglycerides and diglycerides
  - d. glycerol and fatty acids
  - e. steroids
40. Amylase hydrolyses:
- a. starch into smaller saccharides (dextrins and disaccharides)
  - b. starch into monosaccharides
  - c. proteins into smaller peptides
  - d. proteins into amino acids
  - e. nothing, since it is a hormone
41. Which of the following initially hydrolyses protein molecules
- a. aminopeptidases
  - b. amylase
  - c. proteases
  - d. bile
  - e. peptidases
42. Most protein digestion occurs within:
- a. mouth
  - b. esophagus
  - c. large intestine
  - d. small intestine
  - e. stomach
43. Proteins would be digested most effectively under which of the following laboratory conditions:
- a. water and hydrochloric acid
  - b. pepsin and hydrochloric acid
  - c. pepsin and sodium hydroxide
  - d. water and sodium hydroxide
  - e. pepsin, hydrochloric acid and sodium hydroxide
44. Which of the following is not involved with protein digestion:
- a. chymotrypsin
  - b. bile
  - c. trypsin
  - d. peptidases
  - e. hydrochloric acid
45. Some protein-digesting enzymes are activated by another enzyme:
- a. enterokinase
  - b. secretin
  - c. intrinsic factor
  - d. pepsin
  - e. alloperase

46. Parasympathetic nervous impulses are involved in stimulating:
- salivation
  - peristalsis
  - gastric glands
  - pancreatic acini
  - all of the above
47. Which of the following is(are) not a lipid hydrolyzing enzyme(s):
- ptyalin
  - nucleases
  - aminopeptidases
  - collagenase
  - all of the above meet this criterion
48. Peristalsis is not evident within the:
- esophagus
  - mouth
  - large intestine
  - ileum
  - duodenum
49. Which of the following is the longest:
- esophagus
  - jejunum
  - duodenum
  - ileum
  - large intestine
50. Which of the following is the shortest:
- ileum
  - jejunum
  - duodenum
  - colon
  - rectum
51. Amylase is secreted from which of the following glands, even though it is essentially not able to function:
- salivary
  - gastric
  - intestinal
  - pancreatic
  - esophageal
52. The most acidic portion of the intestines should be the:
- duodenum
  - jejunum
  - ileum
  - cecum
  - sigmoid colon

53. Amylase is active in all of the following, except:
- stomach
  - mouth
  - jejunum
  - duodenum
  - colon
54. Which of the following plays no role in hydrolyzing nucleic acid molecules:
- tributylase
  - nucleases
  - nucleotidases
  - phosphatases
  - all of the above play no role
55. Alternating contractions of the circular and longitudinal muscle layers, to propel digesting food through most of the G-I tract:
- enterogastric reflex
  - segmentation
  - peristalsis
  - egestion
  - mastication
56. Which of the following is a disaccharide:
- enterokinase
  - dextrin
  - maltose
  - starch
  - glycerol
57. Which of the following has a bacteriostatic (antimicrobial) function:
- saliva
  - gastric juice
  - normal microflora
  - all of the above
  - none of the above
58. Which of the following is not involved with protein digestion:
- intestinal amylase
  - steapsin
  - nucleotidases
  - bile salts
  - all of the above digest nutrients other than proteins
59. Which nutrient group is so critical that digestive enzymes for its hydrolysis are secreted from the mouth, stomach, pancreas and small intestine:
- proteins
  - nucleic acids
  - lipids

- d. electrolytes
  - e. carbohydrates
60. The normal microflora is a part of the:
- a. stomach
  - b. esophagus
  - c. large intestine
  - d. duodenum
  - e. ileum
61. The colon is segmented into haustrae, due to muscular modifications, the:
- a. cecum
  - b. Peyer's patches
  - c. taeniae coli
  - d. plicae semilunares
  - e. anal sphincters
62. Without the normal microflora what would occur:
- a. a cessation of peristalsis
  - b. vitamin K deficiency
  - c. inability to absorb fatty acids
  - d. constipation
  - e. all of the above would occur
63. Which of the following is not a function of the large intestine:
- a. water absorption
  - b. vitamin K synthesis and absorption
  - c. disaccharide hydrolysis
  - d. protection against noxious microorganisms
  - e. egestion