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 glands
   c. absorptive cell microvillus membranes of small intestine
   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_{12} 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:
    a. duodenum
    b. ileum
    c. colon
    d. jejunum
    e. gallbladder

21. Which of the following hydrolyses proteins and larger polypeptides into smaller peptides:
    a. pepsin
    b. amylase
    c. trypsinogen
    d. aminopeptidases
    e. gastrin

22. Trypsin, as well as most other proteases and general lipases, are secreted in an inactive form because they:
    a. are too large to pass through a cell membrane when fully formed
    b. like all proteins, can only be released in this way
    c. are not ionized, therefore are insoluble until activation
    d. would hydrolyze the cells which produced them
    e. are the only enzymes which are not proteins

23. Which of the following hydrolyses peptides into free amino acids:
    a. maltase
    b. aminopeptidases
    c. steapsin
    d. amylopsin
    e. chymotrypsin

24. The principal component of intestinal juice:
    a. proteases
    b. lipases
    c. ptyalin
    d. mucus
    e. secretin

25. A hormone from the intestinal mucosa, which stimulates enzyme-rich pancreatic juice and bile release:
    a. gastrin
    b. secretin
    c. cholecystokinin (CCK)
    d. intrinsic factor
    e. chyme

26. Which of the following is not involved in protein hydrolysis, directly or indirectly:
    a. steapsin
    b. pepsin
    c. trypsin
    d. chymotrypsin
    e. hydrochloric acid

27. Which of the following is not located within the small intestine:
    a. villi
    b. parietal cells
    c. circular folds
    d. chyme
    e. absorptive cells

28. A deficiency in which hormone would produce pancreatic juice of the wrong pH:
    a. GIP
    b. histamine
    c. gastrin
    d. cholecystokinin
    e. secretin

29. The function of aminopeptidases:
    a. hydrolyze disaccharides to simple sugars (monosaccharides)
    b. hydrolyze small peptides to amino acids
    c. emulsify fats
    d. denature proteins
    e. convert inactive proteases to their active forms

30. Bile salts are to lipid digestion as:
    a. gastrin is to secretin
    b. saliva is to gastric juice
    c. amylase is to carbohydrate digestion
    d. HCl is to protein digestion
    e. maltase is to maltose

31. In what form do absorbed lipids pass into lacteals:
    a. cyclomicrons
    b. micelles
    c. cholesterol
    d. bile
    e. nucleases

32. The most common method of absorption for non-lipid nutrients:

a. direct active transport
b. facilitated diffusion
c. co-transport with Na^+
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. protein denaturation

35. Which of the following does <u>not</u> 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 <u>except</u>:
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 <u>except</u>:
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. <u>none</u> 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:
    a. salivation
    b. peristalsis
    c. gastric glands
    d. pancreatic acini
    e. all of the above

47. Which of the following is(are) not a lipid hydrolyzing enzyme(s):
    a. ptyalin
    b. nucleases
    c. aminopeptidases
    d. collagenase
    e. all of the above meet this criterion

48. Peristalsis is not evident within the:
    a. esophagus
    b. mouth
    c. large intestine
    d. ileum
    e. duodenum

49. Which of the following is the longest:
    a. esophagus
    b. jejunum
    c. duodenum
    d. ileum
    e. large intestine

50. Which of the following is the shortest:
    a. ileum
    b. jejunum
    c. duodenum
    d. colon
    e. rectum

51. Amylase is secreted from which of the following glands, even though it is essentially not able to function:
    a. salivary
    b. gastric
    c. intestinal
    d. pancreatic
    e. esophageal

52. The most acidic portion of the intestines should be the:
    a. duodenum
    b. jejunum
    c. ileum
    d. cecum

e. sigmoid colon

53. Amylase is active in all of the following, except:
a. stomach
b. mouth
c. jejunum
d. duodenum
e. colon

54. Which of the following plays no role in hydrolyzing nucleic acid molecules:
a. tributylase
b. nucleases
c. nucleotidases
d. phosphatases
e. none of the above play any role

55. Alternating contractions of the circular and longitudinal muscle layers, to propel digesting food through most of the G-I tract:
a. enterogastric reflex
b. segmentation
c. peristalsis
d. egestion
e. mastication

56. Which of the following is a disaccharide:
a. enterokinase
b. dextrin
c. maltose
d. starch
e. glycerol

57. Which of the following has a bacteriostatic (antimicrobial) function:
a. saliva
b. gastric juice
c. normal microflora
d. all of the above
e. none of the above

58. Which of the following is not involved with protein digestion:
a. intestinal amylase
b. steapsin
c. nucleotidases
d. bile salts
e. none of the above digest proteins

59. Which nutrient group is so critical that digestive enzymes for its hydrolysis are secreted from the mouth, stomach, pancreas and small intestine:
a. proteins
b. nucleic acids

c. 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