

1. Where is the primary site for absorption of nutrients?
  - a. Stomach
  - b. Small intestine
  - c. Ascending colon
  - d. Descending colon
  - e. Both a and b equally
  
2. What are the finger like projections of mucosa that are seen in the small intestine?
  - a. Lacteal
  - b. Crypts of Lieberkuhn
  - c. Plicae circulares
  - d. Striated border
  - e. Villi
  
3. What is the outer layer of the GI tract called when it is abutting another organ?
  - a. Mucosa
  - b. Sub mucosa
  - c. Muscularis externa
  - d. Serosa
  - e. Adventitia
  
4. Where is masticatory mucosa found
  - a. Tongue underside
  - b. Hard palate
  - c. Soft palate
  - d. Lips
  - e. Cheek
  
5. What is the surface layer of masticatory mucosa composed of?
  - a. Non keratinized stratified squamous epithelium
  - b. Keratinized stratified squamous epithelium
  - c. Simple squamous epithelium
  - d. Pseudostratified squamous epithelium
  - e. Both a and b
  
6. Which layer is NOT present in masticatory epithelium?
  - a. Stratum basale
  - b. Stratum spinosum
  - c. Stratum granulosum
  - d. Stratum lucidum
  - e. Stratum corneum
  
7. Which type of papillae on the tongue is the most abundant?
  - a. Filiform papillae
  - b. Circumvallate papillae
  - c. Fungiform papillae
  - d. Foliate papillae
  - e. All of the above
  
8. What is the innermost layer of the GI tract called?
  - a. Mucosa
  - b. Sub mucosa
  - c. Muscularis externa
  - d. Serosa
  - e. Adventitia

9. What is the lymphatic capillary within a villus of the small intestine called?

- a. Lacteal
- b. Crypts of Lieberkuhn
- c. Plicae circulares
- d. Striated border
- e. Villi

10. Which type of papillae on the tongue is not well developed in man?

- a. Filiform papillae
- b. Circumvallate papillae
- c. Fungiform papillae
- d. Foliate papillae
- e. All of the above

11. Which cranial nerve is responsible for taste to the posterior 1/3 of the tongue?

- a. V
- b. VII
- c. IX
- d. X
- e. XII

12. Which cranial nerve to the tongue is responsible for movement?

- a. V
- b. VII
- c. IX
- d. X
- e. XII

13. Which cranial nerve is responsible for general sensation to the anterior 2/3 of the tongue?

- a. V
- b. VII
- c. IX
- d. X
- e. XII

14. Which cranial nerve is responsible for taste to the anterior 2/3 of the tongue?

- a. V
- b. VII
- c. IX
- d. X
- e. XII

15. Which cranial nerve is responsible for general sensation to the posterior 1/3 of the tongue?

- a. V
- b. VII
- c. IX
- d. X
- e. XII

16. What covers the tooth that is embedded within the jaw?

- a. Pulp cavity
- b. Dentin
- c. Dental pulp
- d. Cementum
- e. Enamel

17. What is within the pulp cavity?

- a. Pulp cavity
- b. Dentin
- c. Dental pulp
- d. Cementum
- e. Enamel

18. What is the central portion of a tooth called?

- a. Pulp cavity
- b. Dentin
- c. Dental pulp
- d. Cementum
- e. Enamel

19. What covers the visible portion of a tooth ?

- a. Pulp cavity
- b. Dentin
- c. Dental pulp
- d. Cementum
- e. Enamel

20. What surrounds the pulp cavity?

- a. Pulp cavity
- b. Dentin
- c. Dental pulp
- d. Cementum
- e. Enamel

21. Which layer contains the lamina propria?

- a. Mucosa
- b. Sub mucosa
- c. Muscularis externa
- d. Serosa
- e. Adventitia

22. What is another term for the valve of Kerckring?

- a. Lacteal
- b. Crypts of Lieberkuhn
- c. Plicae circulares
- d. Striated border
- e. Villi

23. Which type of papillae on the tongue is the smallest?

- a. Filiform papillae
- b. Circumvallate papillae
- c. Fungiform papillae
- d. Foliate papillae
- e. All of the above

24. Where are Peyer's patches located?

- a. Esophagus
- b. Stomach
- c. Small intestine
- d. Large intestine
- e. Rectum

25. What type of muscle makes up the muscularis externa in the esophagus?

- a. Smooth
- b. Striated
- c. Cardiac
- d. both a and b
- e. a, b, and c.

26. What are mucous surface cells?

- a. Simple squamous epithelium
- b. Simple cuboidal epithelium
- c. Simple columnar epithelium
- d. Stratified squamous epithelium
- e. Transitional epithelium

27. Which layer consists of only a single layer of epithelial cells and underlying connective tissue?

- a. Mucosa
- b. Sub mucosa
- c. Muscularis externa
- d. Serosa
- e. Adventitia

28. What is another term for the brush border?

- a. Lacteal
- b. Crypts of Lieberkuhn
- c. Plicae circulares
- d. Striated border
- e. Villi

29. Which type of papillae on the tongue is arranged in a "V" shape on the tongue?

- a. Filiform papillae
- b. Circumvallate papillae
- c. Fungiform papillae
- d. Foliate papillae
- e. All of the above

30. Which cells secrete intrinsic factor?

- a. Parietal cells
- b. Oxyntic cells
- c. Chief cells
- d. Mucous neck cells
- e. Both a and b

31. Which layer contains the lining epithelium?

- a. Mucosa
- b. Sub mucosa
- c. Muscularis externa
- d. Serosa
- e. Adventitia

32. Which type of papillae on the tongue does NOT contain taste buds?

- a. Filiform papillae
- b. Circumvallate papillae
- c. Fungiform papillae
- d. Foliate papillae
- e. All of the above

33. Which layer contains Auerbach's plexus?

- a. Mucosa
- b. Sub mucosa
- c. Muscularis externa
- d. Serosa
- e. Adventitia

34. Which cells secrete hydrochloric acid?

- a. Parietal cells
- b. Oxyntic cells
- c. Chief cells
- d. Mucous neck cells
- e. Both a and b

35. What is another term for the intestinal glands?

- a. Lacteal
- b. Crypts of Lieberkuhn
- c. Plicae circulares
- d. Striated border
- e. Villi

36. Which organ has a mucosa lined by nonkeratinized stratified squamous epithelium?

- a. Esophagus
- b. Stomach
- c. Small intestine
- d. Large intestine
- e. Rectum

37. What are the folds of the stomach called?

- a. Ruffled border
- b. Taeniae coli
- c. Gastric glands
- d. Rugae
- e. Gastric pits

38. Which type of papillae on the tongue is mushroom shaped?

- a. Filiform papillae
- b. Circumvallate papillae
- c. Fungiform papillae
- d. Foliate papillae
- e. All of the above

39. Which layer contains the muscularis mucosa?

- a. Mucosa
- b. Sub mucosa
- c. Muscularis externa
- d. Serosa
- e. Adventitia

40. What are microvilli called that are seen in the small intestine?

- a. Lacteal
- b. Crypts of Lieberkuhn
- c. Plicae circulares
- d. Striated border
- e. Villi

41. Which of the following is the exocrine portion of the pancreas?

- a. Islets of Langerhans
- b. Alpha cells
- c. Beta cells
- d. Delta cells
- e. Acini

42. What are diverticulae of the mucosa of the gallbladder called?

- a. Rokitansky-Aschoff sinuses
- b. Ducts of Luschka
- c. Duct of Wirsung
- d. Ampulla of Vater
- e. Sphincter of Oddi

43. What structure is in the middle of the hepatic lobule?

- a. Hepatic artery
- b. Portal triad
- c. Central vein
- d. Portal vein
- e. Sinusoids

44. What is the space between the liver sinusoids and the hepatocytes called?

- a. Space of Disse
- b. Space of Mall
- c. Vacuole
- d. Lacuna
- e. Howship's lacuna

45. What is the name of the cellular mass for the endocrine portion of the pancreas?

- a. Islets of Langerhans
- b. Alpha cells
- c. Beta cells
- d. Delta cells
- e. Acini

46. Which structures are part of the portal triad?

- a. Portal vein
- b. Hepatic artery
- c. Central vein
- d. Sinusoids
- e. Both a and b

47. Which of the following is NOT a function of the liver?

- a. Metabolism of bilirubin
- b. Deamination of amino acids
- c. Storage of iron
- d. Storage of copper
- e. Storage of calcium

48. What is the functional unit of the liver?

- a. Lobule
- b. Portal triad
- c. Central vein
- d. Hepatocyte
- e. Sinusoids

49. What are the valves which regulate the flow of bile into the intestine?

- a. Rokitansky-Aschoff sinuses
- b. Ducts of Luschka
- c. Duct of Wirsung
- d. Ampulla of Vater
- e. Sphincter of Oddi

50. What cells of the pancreas secrete somatostatin?

- a. Islets of Langerhans
- b. Alpha cells
- c. Beta cells
- d. Delta cells
- e. Gamma cells

51. What is the opening of the pancreatic duct into the duodenum?

- a. Rokitansky-Aschoff sinuses
- b. Ducts of Luschka
- c. Duct of Wirsung
- d. Ampulla of Vater
- e. Sphincter of Oddi

52. Which of the following is the exocrine portion of the pancreas?

- a. Islets of Langerhans
- b. Alpha cells
- c. Beta cells
- d. Delta cells
- e. Acini

53. Which of the following clotting factors is NOT produced in the liver?

- a. Factor I
- b. Factor II
- c. Factor IV
- d. Factor IX
- e. Factor X

54. In what structure does blood run through between the hepatocytes?

- a. Hepatic artery
- b. Portal triad
- c. Central vein
- d. Portal vein
- e. Sinusoids

55. What is the space called that is located at the portal canal between the hepatocytes and connective tissue?

- a. Space of Disse
- b. Space of Mall
- c. Vacuole
- d. Lacuna
- e. Howship's lacuna

56. What layer is NOT found in the gallbladder?

- a. Mucosa
- b. Muscularis mucosa
- c. Muscularis
- d. Adventita
- e. Serosa

57. What cell type makes up the mucosa of the gallbladder?

- a. Simple squamous epithelium
- b. Simple cuboidal epithelium
- c. Simple columnar epithelium
- d. Stratified squamous epithelium
- e. Transitional epithelium

58. What is the classification of the pancreas?

- a. Mixed
- b. Endocrine
- c. Exocrine
- d. Both endocrine and exocrine
- e. None of the above



59. Which cell is a hepatic macrophage?

- a. Kupffer cells
- b. Histiocyte
- c. Dust cell
- d. Langerhans cell
- e. Microglia

60. Where in the pancreas are islets of Langerhans most numerous?

- a. Head
- b. Body
- c. Tail
- d. Evenly distributed
- e. Depends on the individual



61. What cells of the pancreas secrete insulin?

- a. Islets of Langerhans
- b. Alpha cells
- c. Beta cells
- d. Delta cells
- e. Gamma cells

62. What is the pancreatic duct?

- a. Rokitansky-Aschoff sinuses
- b. Ducts of Luschka
- c. Duct of Wirsung
- d. Ampulla of Vater
- e. Sphincter of Oddi

63. What structure is at the angle of the liver lobule?

- a. Lobule
- b. Portal triad
- c. Central vein
- d. Hepatocyte
- e. Sinusoids

64. Which of the following is NOT a function of the liver?

- a. Cholecystokinin production
- b. Bile production
- c. Detoxification
- d. Albumin production
- e. Synthesis of clotting factors

65. What cells of the pancreas secrete glucagon?

- a. Islets of Langerhans
- b. Alpha cells
- c. Beta cells
- d. Delta cells
- e. Gamma cells

66. What are the connection between the cystic duct and liver?

- a. Rokitansky-Aschoff sinuses
- b. Ducts of Luschka
- c. Duct of Wirsung
- d. Ampulla of Vater
- e. Sphincter of Oddi

67. Which of the following is NOT a function of the liver?

- a. Conversion of glucose into glycogen
- b. Storage of glycogen
- c. Storage of bile
- d. Storage of fat soluble vitamins
- e. Cholesterol synthesis

68. What cells of the pancreas secrete pancreatic polypeptide?

- a. Islets of Langerhans
- b. Alpha cells
- c. Beta cells
- d. Delta cells
- e. Gamma cells