Epithelial Lecture Test Questions

1. Which of the following free surfaces lack(s) epithelia:
   a. lung alveoli (air sacs)
   b. hard palate
   c. joint cavities
   d. abdominal cavity
   e. salivary gland ducts

2. Which of the following free surfaces is not lined by epithelium:
   a. abdominal cavity
   b. intestinal cavity
   c. brain cavities
   d. sweat gland duct cavity
   e. blood vessel cavity

3. According to physical position there are two tissues that are termed epithelial, but according to embryonic origin they are not--these two are:
   a. transitional and pseudostratified
   b. endothelium and mesothelium
   c. cardiac muscle and cartilage
   d. areolar and regularly arranged
   e. transitional and endothelium

4. Since epithelia have so little intercellular material to hold the cells in place, they are bound to each other by:
   a. a basement membrane
   b. cilia
   c. ground substance
   d. desmosomes
   e. reticular fibers

5. Adjacent epithelial cells are held together by:
   a. desmosomes
   b. basement membrane
   c. matrix
   d. collagenous fibers
   e. microvilli

6. Adjacent epithelial cells may be held together by:
   a. reciprocal surface irregularities (jigsaw puzzle effect)
   b. basement membrane
   c. matrix
   d. collagenous fibers
   e. microvilli

7. By volume most of an epithelial tissue typically consists of:
   a. intercellular material
   b. cells
   c. inorganic substances
   d. mucous
   e. fibers
8. Epithelial tissue contains:
   a. no blood vessels
   b. mostly cells
   c. many dividing cells, usually, due to much wear
   d. typically cells of one or more of the three basic shapes
   e. all of the above

9. A non-cellular basal lamina and an adjacent fibrous layer is descriptive of:
   a. cartilaginous matrix
   b. keratinized epithelium’s upper layer
   c. desmosome
   d. basement membrane
   e. skin modification over joints (e.g. elbow)

10. A basement membrane is composed of:
    a. areolar tissue
    b. modified squamous cells
    c. a noncellular basal lamina and a fibrous layer resembling connective tissue
    d. dense parallel collagenous fibers
    e. both areolar tissue and dense parallel collagenous fibers

11. Most epithelia lie over connective tissue, which they contact via:
    a. capillary bed
    b. mesenchyme
    c. basement membrane
    d. ciliated zone
    e. layer of smooth muscle

12. Which of the following is not an epithelial function:
    a. protection
    b. support
    c. absorption
    d. secretion
    e. reproduction

13. The secretory cells of glands are:
    a. mesenchymal
    b. chromatophores
    c. epithelial
    d. fibroblasts
    e. lacking in desmosomes

14. Which of the following is not an epithelial function:
    a. protection
    b. lubrication
    c. sensory reception
    d. absorption
    e. filling in spaces
15. Which of the following is not an epithelial function:
   a. storage  
   b. scent  
   c. temperature regulation  
   d. support  
   e. none of the above are epithelial functions

16. The differences among the various types of epithelia are based upon:
   a. cell shape  
   b. number of layers  
   c. cell shapes and layering  
   d. cell shapes and amount of intercellular material  
   e. composition of the matrix

17. Epithelia are classified as to:
   a. cell shape  
   b. number of layers  
   c. modification (cilia, keratinization, etc.)  
   d. function  
   e. all of the above may be utilized

18. Which of the following is not an epithelial function:
   a. sensory reception  
   b. osmotic protection  
   c. reproduction  
   d. diffusion medium  
   e. absorption

19. An entire epithelium is held in place by:
   a. desmosomes  
   b. basement membrane  
   c. matrix  
   d. mucous  
   e. mast cells

20. The number of cell shapes (types) found in the various epithelia:
   a. three  
   b. five  
   c. four  
   d. ten  
   e. in concept only one to three, but a variable number in practice, due to specializations and physical transformations during an individual cell's life

21. Which of the following is not an epithelial function:
   a. transport  
   b. immunity  
   c. reproduction  
   d. mechanical protection  
   e. sensation
22. What is the most conspicuous feature of any epithelium:
   a. fibers
   b. intercellular material
   c. cells
   d. blood vessels
   e. inorganic substances

23. An epithelial junction which binds adjacent cells without affecting transport:
   a. tight
   b. desmosome
   c. gap
   d. capsule
   e. mesothelium

24. Which of the following epithelial junctions permits intercellular communication:
   a. gap
   b. desmosome
   c. tight
   d. jigsaw puzzle effect
   e. basal lamina

25. Besides binding adjacent cells, which of the following epithelial junctions affects intercellular transport:
   a. tight
   b. desmosome
   c. hemidesmosome
   d. capsule
   e. jigsaw puzzle effect

26. A limiting factor affecting the thickness of epithelia:
   a. cell shape
   b. mucous secretion
   c. presence of desmosomes
   d. avascularity
   e. composition of the matrix

27. An epithelium of two layers would be called:
   a. simple
   b. pseudostratified
   c. semi-stratified
   d. stratified
   e. transitional

28. Simple squamous epithelium is primarily for:
   a. protection
   b. sensory reception
   c. dialysis (filtration)
   d. excretion
   e. support of internal organs
29. The primary function of a simple squamous epithelium is:
   a. dialysis (filtration)
   b. protection
   c. support
   d. cellular reproduction
   e. variable

30. Substances more into and out of cells and blood vessels through:
   a. simple epithelia
   b. stratified epithelia
   c. mucous
   d. tissue fluid
   e. collagenous fibers

31. Endothelium is located:
   a. covering ovaries
   b. lining blood vessels
   c. lining gallbladder
   d. covering abdominal and thoracic organs
   e. in ducts

32. Mesothelium is located:
   a. lining abdominal and thoracic cavities
   b. lining blood vessels
   c. covering ovaries
   d. in ducts
   e. in the subcutaneous area

33. Which of the following epithelial types would offer the least mechanical protection:
   a. simple columnar
   b. stratified squamous, non-keratinized
   c. stratified squamous, keratinized
   d. pseudostratified
   e. simple squamous

34. Simple cuboidal epithelium lines (covers):
   a. trachea
   b. ovary
   c. retina
   d. conjunctiva
   e. urethra

35. Cuboidal epithelial cells have how many sides:
   a. 6
   b. 12
   c. 4
   d. 8
   e. none, since they are actually spherical
36. The gallbladder is lined by which epithelial type:
   a. pseudostratified
   b. simple squamous
   c. stratified squamous, non-keratinized
   d. stratified squamous, keratinized
   e. simple columnar

37. Simple columnar epithelium lines (covers):
   a. stomach
   b. gallbladder
   c. many glands
   d. some bronchi and bronchioles
   e. all of the above

38. Some columnar and cuboidal epithelial cells are modified for secretion of mucus—these are:
   a. ciliated
   b. goblet cells
   c. stratified
   d. macrophages
   e. transitional

39. The function of goblet cells:
   a. phagocytosis
   b. dialysis
   c. mucous secretion
   d. shape transitions
   e. collagenous fiber formation

40. Which of the following is not associated with various types of columnar cells:
   a. cilia
   b. mucous secretion
   c. transitional cell
   d. different heights
   e. microvilli

41. Which of the following can be associated with columnar epithelia:
   a. cilia
   b. mucous secretion
   c. microvilli
   d. variable cell shapes
   e. all of the above

42. Which of the following may have ciliated examples in the body:
   a. simple columnar
   b. simple cuboidal
   c. pseudostratified
   d. stratified columnar
43. Which of the following epithelia would be involved in transport:
   a. stratified cuboidal
   b. transitional
   c. pseudostratified, ciliated
   d. stratified squamous, non-keratinized
   e. stratified squamous, keratinized

44. Which of the following is not a valid columnar cell modification:
   a. cilia
   b. dialysis (filtration)
   c. mucous secretion
   d. absorption
   e. being more or less elongated

45. Which of the following epithelia is the least widespread in the body:
   a. simple squamous
   b. transitional
   c. pseudostratified
   d. simple columnar
   e. stratified squamous, non-keratinized

46. Which of the following would always be lined (or covered) by a ciliated epithelium:
   a. digestive tract
   b. respiratory passages
   c. urinary passages
   d. glandular ducts
   e. abdominal organs

47. Thoracic and abdominal organs are covered with a lubricating simple squamous epithelium termed:
   a. fascia
   b. basal lamina
   c. mesothelium
   d. pseudostratified
   e. transitional

48. Pigmented simple cuboidal epithelium is found:
   a. lining sweat glands
   b. as the epidermal stratum basale
   c. lining hair follicles
   d. in the eye's retina and iris
   e. covering adrenal glands

49. Which epithelium offers no mechanical protection:
   a. pseudostratified
   b. simple squamous
50. What is a common feature of some simple epithelia - squamous, cuboidal and columnar:
   a. cilia
   b. dialysis
   c. goblet cells
   d. keratinization
   e. lining various parts of the pharynx

51. Air sacs (alveoli) of the lungs are lined with:
   a. pseudostratified epithelium
   b. simple squamous epithelium
   c. simple cuboidal epithelium
   d. non-keratinized stratified squamous epithelium
   e. irregularly arranged dense collagenous tissue

52. Most respiratory passages are lined with what type of epithelium:
   a. stratified cuboidal, ciliated
   b. pseudostratified, ciliated
   c. non-keratinized stratified squamous
   d. transitional
   e. stratified columnar, ciliated

53. The epithelium lining the nasal passages is:
   a. transitional
   b. simple cuboidal
   c. simple cuboidal, ciliated
   d. stratified squamous
   e. pseudostratified columnar, ciliated

54. Which of the following is not lined by pseudostratified epithelium:
   a. most of respiratory passages
   b. male reproductive ducts
   c. part of urethra
   d. seminiferous tubules of testes
   e. some large glandular ducts

55. Which of the following epithelia would consist of the greatest variety of cell types:
   a. transitional
   b. pseudostratified
   c. stratified cuboidal
   d. stratified columnar
   e. mesothelium

56. Fusiform and basal cells are components of:
   a. all connective tissues
   b. areolar tissue
57. Stratified epithelia are named according to:
   a. the cell type in the free layer
   b. the cell type in the basal layer
   c. the number of layers
   d. location in the body
   e. no particular standard

58. Stratified epithelium is:
   a. only found internally
   b. only found in the mouth
   c. closely related to connective tissue
   d. composed of only one cell type (shape)
   e. composed of typically more than one cell type (shape)

59. Stratified cuboidal epithelium is:
   a. lining of trachea
   b. lining of mouth
   c. skin surface
   d. lining of male urethra
   e. wall of ovarian (Graafian) follicles

60. The urinary bladder is lined with which epithelium:
   a. transitional
   b. pseudostratified
   c. simple columnar
   d. stratified squamous, non-keratinized
   e. stratified squamous, keratinized

61. Transitional epithelium lines:
   a. stomach
   b. gallbladder
   c. urinary bladder
   d. wall of ovarian follicles
   e. trachea

62. The epithelium lining the largest ducts (e.g. mammary glands) is:
   a. transitional
   b. simple cuboidal
   c. stratified squamous, non-keratinized
   d. stratified columnar
   e. pseudostratified, non-ciliated

63. Which of the following epithelial types would offer the most mechanical protection:
   a. simple columnar
b. stratified squamous, non-keratinized
c. stratified cuboidal
d. stratified columnar
e. pseudostratified

64. Which of the following epithelial types would offer the most mechanical protection:
a. stratified squamous, keratinized
b. pseudostratified
c. simple columnar
d. stratified squamous, non-keratinized
e. stratified columnar

65. An example of a stratified columnar epithelium:
a. eccrine sweat gland duct
b. nasal passages
c. stomach
d. anal canal
e. conjunctival folds

66. Respiratory passages and spaces - nasal, pharynx, larynx, trachea, bronchi, bronchioles and air sacs - are lined with what type of epithelium:
a. pseudostratified
b. simple columnar
c. simple cuboidal
d. simple squamous
e. all of the above are present

67. Which of the following would not have a stratified epithelium:
a. mouth lining
b. kidney tubules
c. urinary bladder lining
d. mammary gland ducts
e. urethra

68. Only one type of epithelium exhibits cellular variations which occur in a matter of seconds -- this is:
a. transitional
b. simple squamous
c. stratified squamous, non-keratinized
d. simple columnar with no specilizations
e. pseudostratified

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TRUE AND FALSE:

69. Avascularity is a limiting factor in the thickness of epithelia.
70. Adjacent epithelial cells are held together by collagenous fibers.

71. The predominant component of epithelial tissues is intercellular material.

72. Epithelia have no intercellular material.

73. Epithelia have very little intercellular material.

74. Epithelial tissues typically have a basement membrane of at least one layer.

75. All epithelial tissues have a basement membrane of at least one layer.

76. Epithelium contacts underlying connective tissue via ground substance.

77. The secretory cells of glands are connective tissues.

78. The secretory cells of glands are epithelial.

79. Parts of all sensory organs are epithelial in origin.

80. A substance in contact with the free side of the epithelium lining the intestine would be technically considered as being within the body.

81. Epithelial tissues are held in place by a basement membrane.

82. There are actually more than three epithelial cell shapes.

83. There are actually only three epithelial cell shapes.

84. There is actually a variable number of epithelial cell shapes, due to specializations and physical transformations during the life of individual cells.

85. Joint cavities are not lined by an epithelium.

86. Glandular ducts are not lined by an epithelium.

87. There are three absolute epithelial cell shapes, with no variations.

88. The cell designations low columnar and tall cuboidal are essentially the same.
89. Cuboidal epithelial cells have six sides (surfaces).

90. A substance in contact with the free side of the epithelium lining the intestine would be technically considered as being outside of the body.

91. Dialysis is the principal function of a pseudostratified epithelium.

92. Simple squamous epithelium lines the trachea.
93. Some pseudostratified epithelia lack fusiform cells.

94. Various types of epithelia are found lining different glands.

95. Various types of epithelia are found lining ducts of the different glands.

96. Various types of epithelia are found lining the urethra.

97. Each type of stratified epithelium only contains one of the three possible cell shapes.

98. Non-keratinized and keratinized stratified squamous epithelia usually join each other at body openings.

99. Most dialysis through simple squamous epithelium occurs between the cells.

100. Basal cells have microvilli to increase their free surface area.

101. Keratinized stratified squamous epithelium has only one location in the body.

102. Simple cuboidal epithelium lines the larynx.

103. The entire urethra is lined with non-keratinized stratified squamous epithelium.

104. Goblet cells have microvilli to increase their free (apical) surface area.