Connective Lecture Test Questions

1. By volume, most connective tissues consist of:
   a. cells
   b. intercellular material
   c. inorganic substances
   d. mucus
   e. desmosomes

2. Which of the following is not a connective tissue function:
   a. sensory reception
   b. secretion
   c. reproduction
   d. lubrication
   e. all of the above are not connective functions

3. Which of the following is not a connective tissue function:
   a. support
   b. connection
   c. transport
   d. protection
   e. sensory reception

4. Which of the following is not a part of a connective tissue matrix:
   a. tissue fluid
   b. elastic fibers
   c. mesenchymal cell
   d. ground substance
   e. collagenous fibers

5. Which of the following is not a connective tissue matrix component:
   a. collagenous fibers
   b. ground substance
   c. tissue fluid
   d. fibroblast
   e. reticular fibers

6. Which of the following is not a connective tissue matrix component:
   a. macrophage
   b. proteoglycans
   c. collagenous fibers
   d. tissue fluid
   e. elastic fibers

7. Connective tissue matrix consists of:
   a. ground substance
   b. collagenous fibers
   c. elastic fibers
   d. tissue fluid
   e. all of the above
8. The source of ground substance is:
   a. the epithelium overlying a connective tissue
   b. collagenous fibers
   c. mast cell secretion
   d. fibroblast secretion
   e. unknown

9. Collagenous fibers are composed of:
   a. strands of the protein collagen
   b. ground substance
   c. desmosomes
   d. glycoproteins
   e. pigment secreted from chromatophores

10. Which of the following matrix components is not cellular:
    a. ground substance
    b. collagenous fibers
    c. elastic fibers
    d. tissue fluid
    e. all of the above, since matrix is intercellular material

11. A mesenchymal cell is:
    a. a type of leukocyte (white blood cell)
    b. concerned with accumulating pigment
    c. a part of the reticulo-endothelial (immune) system
    d. unspecialized, possessing the ability to differentiate into a specific connective tissue cell when needed
    e. an intermediate length, being found only in some pseudostratified epithelia

12. An unspecialized cell type, which can differentiate into any specific connective tissue cell:
    a. mast
    b. macrophage
    c. mesenchymal
    d. chromatophore
    e. plasma

13. Which of the following cells is the most generalized:
    a. adipose
    b. mast
    c. reticular
    d. mesenchymal
    e. chondrocyte

14. Which cell type is common to most connective tissues:
    a. goblet
    b. fibroblast
    c. reticular
    d. chondrocyte
    e. plasma
15. Mast cells:
   a. are not for protection, but dialysis (filtration)
   b. are phagocytes
   c. can differentiate into any type of specific connective tissue cell
   d. secrete ground substance
   e. accumulate or synthesize some potentially harmful substances

16. Which of the following cells is phagocytic:
   a. adipose
   b. mast
   c. reticular
   d. mesenchymal
   e. chondrocyte

17. Which of the following cells is never phagocytic:
   a. thrombocyte
   b. macrophage
   c. most leukocytes (white blood cells)
   d. plasma
   e. fibroblast

18. Which of the following cells is never phagocytic:
   a. adipose
   b. macrophage
   c. reticular
   d. plasma
   e. fibroblast

19. Phagocytosis is a function of all of the following cells, except:
   a. mast
   b. reticular
   c. macrophage
   d. neutrophil
   e. fibroblast

20. Which of the following is concerned with accumulating melanin (skin pigment) within the dermis:
   a. chromatophore
   b. melanoblast
   c. melanocyte
   d. fibroblast
   e. mesenchymal cell

21. The component of a connective tissue through which transport (diffusion) actually occurs:
   a. fibroblasts
   b. tissue fluid
   c. reticular fibers
   d. ground substance
   e. collagenous fibers
22. Which of the following cells is phagocytic:
   a. adipose
   b. macrophage
   c. plasma
   d. mesenchymal
   e. chondrocyte

23. An immune related cell type with various functions, due to having a number of specific sub-types (e.g. T-cells and those that produce antibodies):
   a. macrophage
   b. eosinophil
   c. plasma
   d. reticular
   e. neutrophil

24. Which of the following is not true regarding ground substance:
   a. contained within spaces of the matrix termed lacunae
   b. composed of proteoglycans and proteins
   c. binds tissue fluid in its intricate molecular surfaces
   d. secreted by fibroblasts or similar matrix-secreting cells
   e. primarily determines the firmness of a connective tissue

25. Epithelial cells are to desmosomes as connective tissue cells are to:
   a. phagocytes
   b. basement membrane
   c. reticular fibers
   d. matrix
   e. chondrocytes

26. Which connective tissue contains no blood vessels:
   a. areolar
   b. cartilage
   c. dense regularly arranged
   d. dense irregularly arranged
   e. adipose

27. Which of the following is not a connective tissue function:
   a. immune protection
   b. physical protection
   c. diffusion medium
   d. secretion
   e. space-filling

28. Which of the following is not descriptive of ground substance:
   a. amorphous
   b. typically the main contributor to tissue firmness
   c. component through which transport actually occurs
   d. secreted by fibroblasts
   e. composed of proteoglycans, proteins and various other substances
29. Ground substance, collagenous fibers and elastic fibers, are formed by:
   a. epithelium
   b. fascia
   c. basal cells
   d. fibroblasts
   e. macrophages

30. Which of the following is not a connective tissue function:
   a. absorption
   b. physical protection
   c. diffusion medium
   d. immune protection
   e. space-filling

31. Which of the following is the most significant and effective phagocyte:
   a. osteoblast
   b. neutrophil
   c. macrophage
   d. fusiform cell
   e. mast cell

32. A macrophage in the blood circulation is termed:
   a. mast cell
   b. monocyte
   c. transitional
   d. plasma cell
   e. neutrophil

33. A mast cell in the blood circulation is called:
   a. monocyte
   b. lymphocyte
   c. plasma cell
   d. basophil
   e. neutrophil

34. The most widely distributed and least structurally specialized connective tissue:
   a. bone
   b. blood
   c. adipose
   d. areolar
   e. dense irregular collagenous

35. Areolar tissue matrix is:
   a. without fibers, making it unique among the connective tissues
   b. a semi-solid gel, permitting flexible support
   c. semi-liquid to give loose support and permit relatively free diffusion
   d. solid, for maximum strength and support
   e. practically non-existent, making it unique among the connective tissues
36. Which of the following is not a component of areolar tissue:
   a. fibroblast
   b. collagenous fibers
   c. mast cell
   d. lacuna
   e. plasma cell

37. Which of the following tissues is immediately below the skin:
   a. adipose
   b. areolar
   c. reticular
   d. transitional
   e. dense irregularly arranged collagenous

38. Which of the following tissues connects the skin to underlying structures:
   a. squamous
   b. transitional
   c. cartilage
   d. areolar
   e. ligament

39. Reticular tissue is found as:
   a. subcutaneous
   b. framework of lymphatic (immune related) organs
   c. supporting layers around kidneys
   d. attaching muscles to bones
   e. none of the above

40. Which of the following has the most structural (tensile) strength:
   a. bone
   b. tendon
   c. hyaline cartilage
   d. reticular tissue
   e. keratinized stratified squamous epithelium

41. An example of dense regularly arranged collagenous tissue is:
   a. deep fascia
   b. gland capsules
   c. superficial fascia
   d. tendon
   e. dermis of the skin

42. An example of dense irregularly arranged collagenous tissue:
   a. areolar
   b. tendon
   c. membranes within arterial walls
   d. vocal cords
43. Deep fascia (surrounding skeletal muscles) is which tissue type:
   a. areolar
   b. dense irregularly arranged elastic
   c. dense regularly arranged collagenous
   d. dense regularly arranged elastic
   e. reticular

44. An example of dense regularly arranged elastic tissue:
   a. tendon
   b. glandular capsules
   c. vocal cords
   d. elastic cartilage
   e. membranes within arterial walls

45. An example of dense irregularly arranged elastic tissue is:
   a. deep fascia
   b. tendon
   c. stylohyoid ligament
   d. elastic cartilage
   e. certain membranes within arterial walls

46. Which connective tissue has the greatest variety of components:
   a. areolar
   b. reticular
   c. cartilage
   d. dense regularly arranged collagenous
   e. adipose

47. An example of dense irregularly arranged elastic tissue is:
   a. deep fascia
   b. tendon
   c. elastic cartilage
   d. part of arterial walls
   e. vocal cords

48. Which connective tissue primarily forms the framework of organs in the immune system:
   a. areolar
   b. reticular
   c. fibrous cartilage
   d. dense irregularly arranged elastic
   e. adipose

49. Which of the following glandular organs is not covered by a connective tissue capsule:
   a. ovary
   b. liver
   c. thyroid
d. lymph node
e. spleen

50. Which of the following does not primarily function for connection or physical support:
   a. irregularly arranged elastic
   b. adipose
   c. cartilage
   d. regularly arranged collagenous
   e. bone (osseous tissue)

51. Which of the following is not an example of a dense regularly arranged collagenous connective tissue:
   a. joint ligament
   b. tendon
   c. periosteum and perichondrium
   d. deep fascia
   e. sheath

52. An example of dense irregularly arranged collagenous tissue:
   a. tendon
   b. dermis
   c. membranes within arterial walls
   d. framework of lymphatic organs
   e. all of the above

53. Which of the following is not true for areolar tissue:
   a. most widespread of all tissues
   b. contains the most tissue fluid
   c. most structurally organized of all connective tissues
   d. contains all possible fiber types
   e. can contain all possible cell types

54. Which of the following is not true regarding adipose tissue:
   a. stores true fats (triglycerides)
   b. provides insulation
   c. lacks matrix
   d. serves to cushion some body parts
   e. scattered adipocytes may be found within some other connective tissues

55. The function of areolar tissue is:
   a. to provide freedom of movement
   b. space-filling
   c. transport
   d. immunity
   e. all of the above

56. Connective tissues proper are usually characterized by what feature:
   a. predominant cell type
b. type of overlaying epithelium  
c. fiber type and/or density  
d. hardness of the matrix  
e. percentage of mesenchymal cells  

57. Which of the following connective tissues is sometimes given a separate, major tissue status, out of the connective category:  
a. blood  
b. reticular  
c. adipose  
d. fibrous cartilage  
e. transitional  

58. Collagenous fibers are conspicuous in all of the following, except:  
a. areolar  
b. blood  
c. fibrous cartilage  
d. tendon  
e. glandular capsules  

59. Fibroblasts are to areolar tissue as:  
a. columnar cells are to areolar tissue  
b. chondrocytes are to cartilage  
c. elastic fibers are to reticular fibers  
d. reticular fibers are to reticular cells  
e. cartilage is to adipose tissue  

60. Chondrocytes are to cartilage as:  
a. cartilage is to adipose tissue  
b. elastic fibers are to reticular fibers  
c. columnar cells are to areolar tissue  
d. fibrocytes are to areolar tissue  
e. reticular fibers are to reticular cells  

61. Osteocytes are to bone as:  
a. columnar cells are to areolar tissue  
b. elastic fibers are to reticular fibers  
c. fibrocytes are to areolar tissue  
d. cartilage is the adipose tissue  
e. reticular fibers are to reticular cells  

62. The essential difference between bone tissue and other connective tissues is in the composition of the:  
a. matrix  
b. osteocytes  
c. covering layer(s)  
d. nerve supply  
e. fibers  

63. Which connective tissue has a **solid** matrix:
64. Which type of connective tissue has a liquid matrix:
   a. adipose
   b. cartilage
   c. bone (osseous)
   d. blood
   e. dense regularly arranged elastic

65. The most widespread tissue in the body is:
   a. reticular
   b. stratified squamous epithelium
   c. areolar
   d. hyaline cartilage
   e. pseudostratified

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True and False:

66. Secretion is an important connective tissue function. **True**

67. The differences in connective tissue types are primarily based upon the nature of the cells. **True**

68. The differences in connective tissue types are primarily based upon the nature of the matrix. **False**

69. The tissue fluid of connective tissue matrix functions as a medium for transport. **True**

70. Approximately one-third of the body’s fluid component is connective tissue fluid. **False**

71. Tissue fluid is not a component of a connective tissue matrix. **False**

72. A chromatophore is not a component of a connective tissue matrix. **True**

73. Elastic fibers are composed of the protein elastin. **True**

74. A macrophage in the blood circulation is called a neutrophil. **False**

75. A macrophage is responsible for matrix secretion. **True**
76. A **leukocyte** is the unique cell type in bone tissue.

77. Reticular fibers are formed by **chondrocytes**.

78. **Plasma** cells release chemicals involved in allergic reactions.

79. **Mast** cells play a central role in controlling all aspects of immunity.

80. A particular type of connective tissue often varies in different locations.

81. At one time in its life, an adipocyte was a **mesenchymal cell**.

82. Ground substance, tissue fluid and fibers compose the **matrix**.

83. The most widely distributed and least structurally specialized connective tissue is **cartilage**.

84. The most widely distributed and least structurally specialized connective tissue is **reticular**.

85. The most widely distributed and least structurally specialized connective tissue is **bone**.

86. The most widely distributed and least structurally specialized connective tissue is **areolar**.

87. Reticular tissue is sometimes given a separate, major tissue status out of the connective category, along with epithelial, muscles and nervous.

88. Reticular tissue is the only one which contains reticular fibers.

89. An adipose cell is **unique**, since it is not a type of fibroblast.

90. An adipose cell is a modified fibroblast.

91. **Glandular capsules** are composed of dense irregularly arranged collagenous tissue.

92. Due to their unique features, **blood and lymph** are sometimes considered as being in a separate major tissue category, and not included with connective tissues.

93. Connective tissues proper are primarily characterized by the nature of their fibers.

94. Dense irregularly arranged connective tissues are intended to handle tension from various directions.
95. Connective tissues proper are primarily characterized by the nature of their cells.

96. Dense regularly arranged connective tissues are intended to handle tension from various directions.

97. Fat storage is the only function of adipose tissue.

98. Fat storage is not the only function of adipose tissue.

99. Insulation is a function of fibrous cartilage.