

1.2 Connective tissue

64. Mesenchyme:
- (a) originate only from mesoderm
 - (b) in some cases can arise from ectoderm
 - (c) is only found in embryos
 - (d) consist of stellate cells
 - (e) is the source of all connective tissue.
65. Mesenchyme cells typically possess:
- (a) clear boundaries
 - (b) oval nuclei
 - (c) well-developed nucleoli
 - (d) long cytoplasmic processes
 - (e) large numbers of ribosomes.
66. Fibroblasts:
- (a) are the main cell type found in connective tissue
 - (b) synthesize collagen
 - (c) synthesize glycosaminoglycans (acid mucopolycac charides)
 - (d) act as phagocytes
 - (e) produce antibodies.
67. Fibroblasts synthesize:
- (a) hylauronic acid
 - (b) heparin
 - (c) histamine
 - (d) elastic fibers
 - (e) reticular fibers.
68. Fibroblast secrete:
- (a) collagen fibers only
 - (b) reticular fibers only
 - (c) elastic fibers only
 - (d) amorphous, extracellular material
 - (e) histamine.
69. Loose connective tissue contains:
- (a) cells
 - (b) fibers
 - (c) amorphous matter
 - (d) water
 - (e) blood capillaries

70. The intercellular substance of loose connective tissue:
- (a) contains chondroitin sulfate
 - (b) contains hyaluronic acid
 - (c) contains proteoglycans
 - (d) is visualized in preparations stained by hematoxylin and eosin
 - (e) can be preserved adequately by special fixation procedures
71. Collagen fibers are present in:
- (a) the intercellular substance of connective tissue
 - (b) the basal lamina supporting epithelial cells
 - (c) bone matrix
 - (d) cartilage matrix
 - (e) teeth
72. Collagen is present in:
- (a) epidermis
 - (b) basophilic
 - (c) metachromatic
 - (d) ligaments
 - (e) aponeuroses
73. Collagen fibers are:
- (a) acidophilic
 - (b) basophilic
 - (c) metachromatic
 - (d) birefringent (anisotropic)
 - (e) the main source of hydroxyproline in the body
74. Collagen fibers are:
- (a) easily stretched
 - (b) able to contract
 - (c) resistant to tearing
 - (d) converted to glue if boiled
 - (e) seen to have transverse striations in light micro-scope preparations
75. Tropocollagen molecules are:
- (a) the basic molecules from which collagen fibers are formed
 - (b) organized in orderly rows within the fibroblast
 - (c) built from a triple-stranded helix
 - (d) synthesized by fibroblasts in the rough endoplasmic reticulum
 - (e) extruded by fibroblasts to the extracellular space

76. The collagen of the matrix of hyaline cartilage (type II) is identical in chemical and molecular composition to the collagen of:
- (a) loose connective tissue
 - (b) bone
 - (c) skin
 - (d) tendon
 - (e) basal laminae
77. Which of the following structures show longitudinal striations when seen by light microscopy?
- (a) collagen fibers
 - (b) reticular fibers
 - (c) elastic fibers
 - (d) fibroblasts
 - (e) basal laminae
78. Which of the following fibers as seen by electron microscopy have cross-banding with a 64 nm periodicity?
- (a) collagen fibers of loose connective tissue
 - (b) collagen fibers of hyaline cartilage
 - (c) reticular fibers
 - (d) elastic fibers
 - (e) collagen of basal laminae
79. The amino acid desmosine is found in:
- (a) reticular fibers
 - (b) collagen fibers
 - (c) elastic fibers
 - (d) tropoelastin
 - (e) myofilaments
80. Elastin is an important component of:
- (a) skin
 - (b) blood vessels
 - (c) epiglottis
 - (d) tendon
 - (e) loose (areolar) connective tissue
81. Elastic fibers are:
- (a) homogeneous as seen by light microscopy
 - (b) homogeneous as seen by electron microscopy
 - (c) lacking in color in fresh tissue
 - (d) formed by smooth muscles
 - (e) formed by fibroblasts

82. Reticular fibers are:
- (a) readily visible in H & E preparations
 - (b) PAS – positive
 - (c) argyrophilic
 - (d) composed mainly of collagen
 - (e) associated with basal laminate of epithelial cells.
83. Reticular fibers are:
- (a) branched
 - (b) yellowish in fresh preparations
 - (c) formed by fibroblasts
 - (d) seen to have periodic striations at the electron microscope level
 - (e) found to have larger bundles of fibrils than collagenous fibers
84. Reticular fibers are abundant in the:
- (a) spleen
 - (b) lymph nodes
 - (c) red bone marrow
 - (d) liver
 - (e) kidney
85. Mature fibrocytes compared with younger fibroblasts from which they developed:
- (a) are smaller
 - (b) are more spindle-shaped
 - (c) have more cytoplasmic processes
 - (d) have cytoplasm that stains more acidophilic
 - (e) Have larger amounts of rough endoplasmic reticulum.
86. Macrophages:
- (a) may be fixed and non-mobile
 - (b) may use ameboid movement to wander through tissue.
 - (c) are phagocytic
 - (d) possess large numbers of lysosomes
 - (e) can be identified by their active engulfment of injected vital dyes.
87. Foreign body giant cells:
- (a) possess large numbers of nuclei
 - (b) are phagocytic
 - (c) develop from the fusion of macrophages
 - (d) produce antibodies
 - (e) are mobile.

88. Adipose tissue:
- (a) is a type of connective tissue
 - (b) constitutes up to 20% or more of the total Body weight in adults.
 - (c) provides thermal insulation
 - (d) is an important reservoir of energy
 - (e) acts as shock absorber in the soles of the Feet.
89. Fat cells are usually abundant in the:
- (a) epidermis
 - (b) dermis
 - (c) hypodermis
 - (d) parathyroid glands
 - (e) yellow bone marrow.
90. The metabolism and mobilization of adipose tissue is influence by:
- (a) growth hormone
 - (b) glucocorticoids
 - (c) thyroxine
 - (d) calcitonin
 - (e) parathyroid hormone
91. White fat cells of adults contain:
- (a) many small lipid droplets within cells (multilocular)
 - (b) a single large droplet of lipid within cells (unilocular)
 - (c) a centrally placed nucleus
 - (d) a flattened peripheral nucleus
 - (e) abundant, rough endoplasmic reticulum.
92. Brown fat cells are:
- (a) unilocular
 - (b) multilocular
 - (c) more numerous than white fat cells
 - (d) under nervous regulation.
 - (e) found mainly in fetuses.
93. Lipid of adipose cell is:
- (a) lost mainly during fixation
 - (b) partly leached out during dehydration
 - (c) dissolved by clearing agents
 - (d) stained in fresh material with dyes such as Oil red –O
 - (e) preserved in osmium tetroxide-fixed material

94. Mast cells have granules that:
- (a) are acidophilic
 - (b) are lysosomes
 - (c) contain histamine
 - (d) contain heparin
 - (e) stain metachromatically with toluidine blue.
95. Mast cells are:
- (a) epithelial
 - (b) connective tissue cells
 - (c) producers of antibodies
 - (d) phagocytic
 - (e) involved in immunological responses to Allergies.
96. Histiocytes:
- (a) are fixed macrophages
 - (b) are formed monocytes
 - (c) secrete antibodies
 - (d) contain large, cytoplasmic, basophilic Granules
 - (e) can be converted to foreign body giant cells.
97. Plasma cells have:
- (a) eccentrically-placed nuclei
 - (b) well-developed, smooth endoplasmic reticulum
 - (c) phagocytic ability
 - (d) basophilic cytoplasm
 - (e) large coarse cytoplasmic granules.
98. Plasma cells are commonly found in:
- (a) peripheral blood
 - (b) connective tissue
 - (c) intestinal mucosa
 - (d) areas subject to chronic inflammation
 - (e) bone marrow.
99. Which of the following cell types belongs to the Mononuclear Phagocytes System?
- (a) dust cells of the lung
 - (b) blood monocytes
 - (c) kupffer cells
 - (d) mast cells
 - (e) melanocytes.

100. Mucous connective tissue:
- (a) is present in adults
 - (b) is present in fetuses
 - (c) is typical of the umbilical cord
 - (d) contains stellate fibroblasts
 - (e) contains jelly-like , intercellular substance with collagenous fibers
101. Tendons are:
- (a) classified as regular dense connective tissue
 - (b) white when fresh
 - (c) virtually inextensible
 - (d) rich in elastic fibers
 - (e) found at the origin and insertion of skeleton muscles.
102. Tendons in histological preparation show:
- (a) parallel bundles of collagen fibers
 - (b) parallel bundles of elastic fibers
 - (c) fibrocytes situated between bundles of fibers
 - (d) histiocytes or mast cells between bundles of fibers
 - (e) an appearance similar to that of elastic ligaments.
103. Dense, regular connective tissue is found in
- (a) ligaments
 - (b) dermis of the skin
 - (c) cornea
 - (d) dura mater
 - (e) tunica albuginea surrounding the testes.
104. Aponeurose are:
- (a) found in the central nervous system
 - (b) found in the peripheral nervous system
 - (c) flattened sheets of dense connective tissue
 - (d) connected to muscular sheets
 - (e) composed of collagenous bundle and fibroblasts.
105. Ligaments:
- (a) connect bones to bones only
 - (b) may connect muscle to bone
 - (c) have a single cell type, the fibroblast
 - (d) have regularly-arranged fibroblasts
 - (e) may contain considerable amounts of elastic Tissue.