

**120 Cat 1 December 2008**

**The answers are underlined**

**1- Axoneme of a cilium:**

- a. Contains triplets of microtubules
- b. Contains doublets of microtubules
- c. Contains actin
- d. Contains myosin
- e. May be found in squamous cells

**2- Rough endoplasmic reticulum:**

- a. Is formed of non-branched tubules
- b. Synthesizes glycogen
- c. Is responsible for calcium pump
- d. Has RNA
- e. Is acidophilic

**3- Monocytes develop into:**

- a. Adipocytes
- b. Fibroblasts
- c. Mast cells
- d. Macrophages
- e. Pericytes

**4- Gap junctions are found in between:**

- a. Skeletal muscle fibers
- b. Osteoclasts
- c. Cardiac muscle cells
- d. Fibroblasts
- e. Macrophages

**5- Which of the following is multinucleated cell?**

- a. Chondroblast
- b. Chondrocyte
- c. Osteoblast
- d. Osteocyte
- e. Osteoclast

**6- Lysosomes are:**

- a. Cytoplasmic inclusions
- b. Membrane-bound structures
- c. Produced by smooth endoplasmic reticulum
- d. Rich in glycogen
- e. Produced by free ribosomes

**7- Sarcomere:**

- a. Is found in smooth muscle cells
- b. Is bisected by Z line
- c. Contains Myosin only
- d. Consists of A band and two halves of I band
- e. Contains actin only

**8- The epithelial lining of urinary bladder is:**

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

**9- Cardiac muscle cells:**

- a. are multinucleated
- b. Show dense bodies
- c. Have desmosomes
- d. Have tight junctions
- e. Have triads of tubular structure

**10- Occludent (tight) junction:**

- a. Has a wide intercellular space
- b. Has bundles of intermediate filaments
- c. Has plaques
- d. Is a member of the junctional complex
- e. Is found in between smooth muscle cells

**11- Keratinization may occur in:**

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

**12- Regarding the fibers of connective tissue:**

- a. Tendons contain type II collagen
- b. Elastic fibers are type III collagen
- c. Procollagen is synthesized in smooth endoplasmic reticulum
- d. Type III collagen is branching fibers
- e. Type I collagen is basophilic

**13- The basement membrane contains the following components, EXCEPT:**

- a. Type I collagen
- b. Type III collagen
- c. Type IV collagen
- d. Type VII collagen
- e. Lamina densa

**14- Plasma cells:**

- a. Arise from monocytes
- b. Have acidophilic cytoplasm
- c. Produce histamine
- d. Are phagocytic
- e. Have eccentric nucleus

**15- Which of the following cells can NOT divide?**

- a. Fibroblasts
- b. Macrophages
- c. Cardiac muscle cells
- d. Smooth muscle cells
- e. Chondrocytes

**16- Type II collagen:**

- a. Is found in hyaline cartilage
- b. Forms ligaments
- c. Forms tendons
- d. Is elastic
- e. Forms bundles of fibers

**17- Smooth muscle cells have:**

- a. Multiple nuclei
- b. T-tubules
- c. Acidophilic cytoplasm
- d. Desmosomes
- e. Peripheral nucleus

**18- Multilocular adipocyte:**

- a. Has one large fat droplet
- b. Has peripheral nucleus
- c. Is found in white fat
- d. Is rich in rough endoplasmic reticulum
- e. Has rounded nucleus

**19- The periosteum:**

- a. Is calcified tissue
- b. Rich in elastic fibers
- c. Has osteoprogenitor cells in its outer layer
- d. Shows osteocytes
- e. Contains blood vessels

20- Choose the **WRONG** statement about haversian's canals:

- a. Run longitudinally
- b. Are surrounded by concentric bone lamellae
- c. Contain blood vessels
- d. Contain lacunae with osteocytes
- e. communicate with canaliculi

21- Spongy bone has:

- a. Volkmann's canals
- b. Haversian canal systems
- c. Basophilic matrix
- d. Bone lamellae
- e. No endosteum

22- Choose the **WRONG** statement about osteocyte:

- a. It has cytoplasmic processes
- b. It is found in lacuna
- c. It can divide
- d. It is mononucleated
- e. It has gap junctions

23- Howship's lacuna contains:

- a. Chondrocyte
- b. Osteoprogenitor cell
- c. Osteocytes
- d. Osteoclast
- e. Osteoblast

24- Which of the following is **WRONG** about osteon?

- a. It has concentric bone lamellae
- b. It has blood vessels
- c. It has canaliculi
- d. It has canal
- e. It has type II collagen

25- Healing of wounds is the function of:

- a. Plasma cells
- b. Macrophages
- c. Mast cells
- d. Pericytes
- e. Fibroblasts

**26- Chondroblast:**

- a. Has acidophilic cytoplasm
- b. Is responsible for interstitial growth of cartilage
- c. Is found in perichondrium
- d. Can not divide
- e. Has lacuna

**27- Elastic cartilage is found in:**

- a. Articular cartilage
- b. The wall of trachea
- c. Costal cartilage
- d. Fetal skeleton
- e. Epiglottis

**28- In hyaline cartilage:**

- a. The interstitial growth occurs in the inner layer of perichondrium
- b. There is elastic fibers
- c. No appositional growth
- d. Chondroblasts form isogenous groups
- e. The matrix is basophilic

**29- Fibrocartilage contains:**

- a. Fibrous perichondrium
- b. Parallel bundles of type I collagen
- c. Bundles of type III collagen
- d. Abundant type II collagen
- e. Blood capillaries

**30- Non-keratinized stratified squamous epithelium is found in:**

- a. Esophagus
- b. Trachea
- c. Small intestine
- d. Ureter
- e. Blood vessels