

CHAPTER 1: HISTOLOGY

1. Regarding mitochondria, the following are TRUE except:
 - a. They are motile organelles.
 - b. Each mitochondrion consists of two layers of membrane; the outer which is relatively permeable and contains enzymes and inner thrown into folds called cristae.
 - c. Aerobic respiration takes place within the matrix.
 - d. Exhibit semi-genetic autonomy.
 - * e. **They have great similarity in size, shape and arrangement of cristae.**
2. Which of the following is not among the phases of the cell-cycle?:
 - a. First gap or G1 phase.
 - b. Synthetic phase or S phase.
 - c. Second gap or G2 phase.
 - d. Mitotic phase or M phase.
 - * e. **Go phase.**
3. All of the following organelles incorporate a unit membrane except:
 - a. Ribosome
 - b. Lysosome
 - c. Rough endoplasmic reticulum
 - d. Golgi apparatus
 - * e. **Nuclear envelope**
4. A lysosome:
 - a. Has the role of protein synthesis in the cell.
 - b. Is critical to cell division.
 - c. Is an innate inclusion body in the cytoplasm.
 - * d. **Is well developed in macrophages.**
 - e. None of the above.
5. Which one of the following subcellular components has the largest single dimensions?
 - a. Microtubule
 - b. Lysosome
 - c. Nuclear pore
 - * d. **Golgi apparatus**
 - e. Centriole
6. The following are found attached to the surface of rough endoplasmic reticulum:
 - * a. **Ribosomes**
 - b. Mitochondria
 - c. Golgi apparatus
 - d. Glycogen
 - e. Lysosomes

7. Regarding cell division:
- a. Mitosis involves two segmental cell divisions.
 - * b. **Chiasmata formation occurs in meiosis only.**
 - c. Meiotic division results in production of four diploid daughter cells.
 - d. Prophase is followed by Telophase then the G2 phase.
 - e. None of the above.
8. The following are true regarding ribosomes except:
- a. Are not visible under light microscopy.
 - b. Cells rich in them have basophilic cytoplasm.
 - c. Are important in protein synthesis.
 - d. Each has one large and one small sub-unit.
 - * e. **None of the above.**
9. Which of the following is not TRUE about mitochondria?
- a. Are either ovoid or rod shaped.
 - * b. **Can be seen with the light microscope.**
 - c. Their double unit membrane cannot be seen under light microscopy.
 - d. Produce energy-rich compound ATP.
 - e. Have cristae which increase the surface area for biochemical reactions.
10. During mitosis chromosomes first become visible in:
- a. Telophase
 - b. Metaphase
 - * c. **Prophase**
 - d. Anaphase
 - e. Interphase
11. During meiosis:
- a. Somatic cells take part.
 - * b. **The haploid number of chromosomes is attained.**
 - c. Cleavage never occurs.
 - d. The chromosomal number in daughter cells is equal to that of the parent cells.
 - e. None of the above.
12. The nucleus:
- a. Is essential for multiplication of the cell.
 - b. Contains chromosomes even when not dividing.
 - c. Is essential for protein synthesis in the cell.
 - * d. **All the above.**
 - e. None of the above.
13. On mitosis and meiosis:
- * a. **During prophase of mitosis, nuclear membrane dissolves.**

- b. During mitosis, chromatids become evident in telophase.
 - c. Meiotic division results in production of four diploid daughter cells.
 - d. During meiosis, somatic cells take part.
 - e. Prophase is followed by telophase then the G2 phase.
14. On the organelles found in a cell, the following are TRUE except:
- * a. A lysosome has the role of protein synthesis.
 - b. Ribosomes are found attached to the surface of rough endoplasmic reticulum.
 - c. Mitochondria have cristae which increase the surface area for biochemical reactions.
 - d. Smooth endoplasmic reticulum is important in lipid synthesis.
 - e. Mitochondria are motile organelles.
15. In meiosis:
- a. The first division is the same as mitosis.
 - b. Somatic cells take part
 - c. The chromosomal number of the daughter cells is equal to that of the parent cells.
 - d. The haploid number of chromosome is attained.
 - * e. None of the above.
16. DNA is found mainly in the:
- a. Ribosomes
 - b. Lysosomes
 - * c. Nucleus
 - d. Golgi apparatus
 - e. Mitochondria
17. The mitochondria:
- a. Carry out synthesis of protein in the cytoplasm
 - b. Form the mitotic spindle
 - c. Contain the cell's hereditary material.
 - * d. Are sites of energy production in the cytoplasm.
 - e. None of the above
18. Lysosomes are accurately described by which of the following statements?
- a. They are rarely encountered in macrophages and polymorphonuclear leucocytes.
 - b. They are not membrane limited.
 - c. They are morphologically homogenous organelles.
 - d. They are active at basic PH.
 - * e. They can release their enzymes extracellularly and thus degrade the cell.
19. Which of the following statements is TRUE of the Barr body?
- a. It represents the inactivated Y chromosome of males that remains condensed during interphase.

b. Its absence in a buccal smear chromatin test indicates definitively that the patient is female.

c. It would have an identical appearance in a buccal smear chromatin test in a patient with Turner's syndrome and in a normal female.

d. It is found exclusively in the germ cells of the gonads.

* e. **It may be used for determination of chromosomal sex and abnormalities of X-chromosome number.**

20. All the following statements are TRUE of the cell cycle except:

a. The cell cycle consists of chromosomal and cytoplasmic cycles in which DNA and cytoplasmic components are duplicated and divided between the two daughter cells.

b. The cell cycle consists of the following stages in order: Interphase, prophase, prometaphase, metaphase, anaphase and telophase.

* c. **Cytokinesis represents the condensation of chromosomal material with two sister chromatids held together at the centromere.**

d. The duration of the cell cycle and its individual phases varies from organ to organ during development and senescence.

e. Normal passage through the cell cycle requires accurate inheritance and duplication of the centrosome.

21. The following are TRUE about prophase except:

* a. **The nuclear envelope remains unaltered**

b. The centrioles separate and pair originates to each pole of the cell.

c. Microtubules appear between the two pairs of centrioles.

d. Chromosomes appear coiled in the nucleus.

e. The nuclear envelope and nucleus disappear.

22. Telophase is characterised by:

a. Separation of chromatids from each other.

b. Migration of chromatids to opposite poles.

c. Centrioles separate and migrate to opposite poles.

d. Nuclear envelope disappears.

* e. **The nucleoli, chromatin and nuclear envelope reappear.**

23. The epithelium of the epididymis is:

a. Simple cuboidal

b. Simple squamous

c. Transitional

* d. **Pseudostratified columnar with stereocilia.**

e. Pseudostratified columnar with microvilli.

24. Pseudostratified ciliated epithelium lines which of the following organs?

* a. **Trachea**

b. Stomach

- c. Gall bladder
 - d. Epididymis
 - e. Duodenum
25. All the following are part of junctional complex except:
- a. Gap junctions
 - b. Zonula occludens
 - c. Desmosome
 - d. Macula adherens
 - * e. **Microvilli**
26. Stratified squamous epithelium is found lining:
- a. The vagina
 - b. The anterior 2/3 of the tongue
 - c. The rectum
 - * d. **(a) & (b)**
 - e. c only.
27. The urinary bladder is lined by:
- a. Pseudostratified columnar ciliated epithelium.
 - b. Simple cuboidal epithelium
 - c. Simple columnar epithelium
 - d. Simple squamous epithelium
 - * e. **Transitional epithelium**
28. Pseudostratified columnar epithelium with stereocilia is found in:
- * a. **Epididymis**
 - b. Renal proximal convoluted tubule
 - c. Trachea
 - d. Bronchioles
 - e. Alveoli
29. Crypts of Luberkulin are found in:-
- a. Gall bladder.
 - b. Seminal vesicles.
 - c. Stomach.
 - d. Tonsil.
 - * e. **Large bowel.**
30. Which part of the stomach has the highest concentration of gastrin cells?
- a. Fundus
 - b. Body
 - * c. **Pylorus**
 - d. Cardiac part

- e. None of the body
31. The most striking feature that distinguishes the duodenum from the rest of the small intestine histologically is:
- a. Presence of smaller villi
 - * b. **Presence of Brunner's glands**
 - c. Presence of inner circular and outer longitudinal muscle
 - d. Its posterior part lacks serosa
 - e. Stratified columnar epithelium
32. Histologically you can differentiate the duodenum from the rest of the small intestine by the presence of:
- a. Villi
 - b. Crypts of Leiberkuhn.
 - * c. **Brunner's glands.**
 - d. Aggregated lymphoid follicles.
 - e. Valves of Kerckring.
33. Oesophagus is lined by the following epithelium
- a. Transitional
 - * b. **Non-keratinizing stratified squamous**
 - c. Simple columnar
 - d. (a) and (b)
 - e. b and c
34. Microvilli are a characteristic feature of:
- a. Secretory cells
 - b. Neurotransmitter cells
 - * c. **Absorptive cells**
 - d. Fibroblasts
 - e. Endocrine cells
35. Simple squamous epithelium lines:
- a. Alveoli of the lungs
 - b. Lymphatics
 - c. Peritoneal cavity
 - d. Pleural cavity
 - * e. **All of the above**
36. The shape of cells in pseudostratified epithelium is:
- a. Squamous
 - * b. **Columnar**
 - c. Cuboidal
 - d. Transitional
 - e. Spherical

37. All the following are TRUE of the basement membrane except:
- a. Basement membrane components are synthesized solely by the epithelium.
 - b. All basal laminae contain type IV collagen.
 - c. The basal lamina contains an electron-lucent called the lamina rara.
 - * d. **The lamina densa consists primarily of type IV collagen.**
 - e. Fibronectin and laminin bind to integrins on epithelial and connective tissue cells.
38. In the respiratory system, the ciliated epithelial cells:
- a. Are mainly located in the respiratory portions of the airway.
 - b. Serve to sweep mucus toward the peripheral lung, where it is phagocytosed by alveolar macrophages.
 - c. Are primary source of mucus.
 - d. Are the effective in Kartagener's Syndrome.
 - * e. **Are also known as brush cells.**
39. Which of the following statement is TRUE of Clara cells?
- a. They are found in the alveoli
 - * b. **They are the ciliated cells of the respiratory bronchiole**
 - c. They are the endocrine cells that form neuro-epithelial bodies.
 - d. They produce a surfactant - associated protein and contain extensive smooth endoplasmic reticulum.
 - e. They are uninvolved in the production of mucus.
40. All the following are TRUE about protein secreting epithelial cells except:
- a. A well developed rough endoplasmic reticulum.
 - b. A supra nuclear golgi
 - c. Apical zone containing granules
 - * d. **A well developed smooth endoplasmic reticulum.**
 - e. A distinct polarity with basal rough endoplasmic reticulum.
41. A defect in collagen cross-linking would result in which of the following symptoms?
- a. Fever
 - b. Oedema
 - * c. **Poor wound healing**
 - d. High blood pressure
 - e. Blindness
42. Connective tissue has all of the following compartments except:
- a. Cells derived from mesoderm
 - b. Cells that commonly secrete collagen
 - c. Extracellular fibres.

- d. Amorphous ground substance.
 - * e. **A basal lamina.**
43. Regarding fibroblasts, the following statements are TRUE except:
- a. Have stellate or elongated fusiform shape.
 - b. Have cytoplasm rich in rough endoplasmic reticulum.
 - c. Are heavily involved in protein synthesis.
 - * d. **Are found in all types of connective tissue.**
 - e. None of the above.
44. Which of the following statements is TRUE:
- * a. **Collagen fibres are white.**
 - b. Macrophages produce heparin and histamine.
 - c. Mast cells produce antibodies.
 - d. Plasma cells are phagocytic.
 - e. All the above.
45. The word "Collagen" can be used for:
- a. Yellow fibres in intercellular substance
 - b. Adipose tissue
 - c. Loose areolar tissue
 - * d. **White fibres in intercellular substance**
 - e. Reticular fibres
46. With regard to the asymmetry of all membranes, all the following statements are TRUE except:
- a. Peripheral proteins are restricted to the internal (cytosolic) side of the plasma membrane.
 - * b. **Carbohydrate groups can be associated with either the external (extracellular) or internal (cytosolic surface of the plasma membrane).**
 - c. The lipid bilayer has an asymmetric distribution of phospholipids.
 - d. The N terminus of transmembrane protein extends from the external surface of the plasma membrane.
 - e. The C terminus of transmembrane protein extends into the cytosol.
47. The principal proteoglycan with which collagen type IV interacts is:
- a. Fibronectin
 - b. Laminin
 - c. Entactin
 - * d. **Heparin sulfate**
 - e. Dermatan sulfate
48. Connective tissue is composed of:
- a. Cells

- b. Matrix
 - c. Fibres
 - d. Only (a) & (b)
 - * e. (a), (b) and (c)

- 49. Connective tissue proper is classified depending on the following except:
 - a. Type and number of cells
 - b. Type of fibres
 - c. Arrangement of fibres
 - * d. Amount of matrix (ground substance)
 - e. All the above

- 50. On bones, the following are TRUE except:
 - * a. All bones whether long, short, irregular, sesamoid etc have diaphysis and epiphyseal parts.
 - b. Primary ossification centres of long bones develop in diaphysis.
 - c. Maxilla, vault of skull and part of mandible ossify by intramembranous ossification.
 - d. Osteoprogenitor, osteoblasts and osteoclasts cells are found in a growing bone.
 - e. Long bones have one growing end.

- 51. As regards osteoblasts:
 - * a. They are polygonal cells.
 - b. They secrete type II collagen
 - c. They do not respond to parathyroid hormone
 - d. They lack extensive rough endoplasmic reticulum.
 - e. None of the above.

- 52. Hyaline cartilage is:
 - a. Very vascular
 - b. Extremely elastic
 - * c. Found at articular ends of long bones.
 - d. Found in the epiglottis and ear lobule.
 - e. None of the above.

- 53. The following bones ossify by intramembranous ossification except:
 - a. Vault of the skull
 - * b. Patella
 - c. Maxilla
 - d. Part of the mandible
 - e. None of the above.

- 54. An example of a primary cartilaginous joint is:
 - a. The joint between the clavicle and scapula
 - b. The joint between the clavicle and sternum
 - * c. The joint between the first rib and sternum
 - d. The joint between the first rib and scapula
 - e. The joint between the scapula and humerus

55. The following cells are found in a growing bone except:
- Osteoprogenitor cells.
 - Osteoblasts
 - Osteocytes
 - Osteoclasts
 - * **None of the above.**
56. Diaphysis and epiphysis are parts of:
- Short bones.
 - * **Long bones.**
 - Flat bones.
 - Irregular bones.
 - Sesamoid bones.
57. Osteoblasts are correctly characterised by which of the following statements?
- They are derived from monocytes.
 - They synthesize high quantities of acid phosphatase.
 - They are involved in matrix formation but not mineralization.
 - * **They have less rough endoplasmic reticulum than do osteocytes.**
 - They possess P.T.H. receptors.
58. Which of the following statements is TRUE of bone development?
- Adult bone formed by intra membranous ossification differs microscopically from cartilage derived bone.
 - The periosteal collar is primarily responsible for the growth in length of long bones.
 - Osteoblastic activity differs between intramembranous and endochondral ossification.
 - * **Healing of fractures recapitulates many of the events in bone development.**
 - Woven bone is formed only during intramembranous ossification.
59. Eosinophils are best described as being:
- Less numerous in peripheral blood than basophils.
 - More numerous in peripheral blood than neutrophils.
 - More numerous in peripheral blood than lymphocytes.
 - * **More numerous in patients with Schistosomiasis**
 - Incapable of phagocytosis.
60. In the adult, blood continues to be made in the:
- Spleen
 - Pancreas
 - Lymphnodes
 - Liver
 - * **Bone marrow of short, irregular and flat bones.**
61. The following statement is TRUE:
- Neutrophils are the most common type of agranulocytes.
 - The drumstick chromosome is visible in males only.

- c. The mature neutrophil usually has 5 to 8 lobes.
 - * d. Neutrophils contain granules with the enzyme alkaline phosphatase.
 - e. Neutrophils contain granules with the enzyme histaminase.
62. Blood plasma:
- a. Forms 70% of total blood volume
 - b. Is osmotically active due to presence of inorganic ions.
 - * c. Contains plasma proteins that form 1%
 - d. Contains hormones and pigments.
 - e. All the above.
63. Thrombocytes:
- * a. Contain actin and myosin filaments similar to those in skeletal muscle.
 - b. Are involved in the immune reactions to antigens.
 - c. Are mainly formed in the liver and spleen.
 - d. They are fragments of cytoplasm without a plasma membrane.
 - e. All the above.
64. White blood cells in the adult are:
- a. 55 - 60% lymphocytes.
 - * b. 3 - 7% monocytes.
 - c. 20 - 40% neutrophils
 - d. 1 - 3% monocytes.
 - e. 10 - 15% eosinophils.
65. Which of the following statements about erythrocytes is FALSE
- a. There are approximately 5 million per mm³ of blood.
 - * b. They constitute about 45% of the total volume of blood.
 - c. They lack organelles
 - d. None of the above.
 - e. (a) and (b) only.
66. In adults, red bone marrow persists in the following except:
- a. Skull bones.
 - b. Pelvic bones
 - c. Vertebrae
 - d. Sternum
 - * e. Humerus
67. Blood capillaries:
- * a. Fenestrated capillaries are found in the renal glomerulus and small intestines do not have basement membrane.
 - b. continuous capillaries are found in the CNS and lungs.
 - c. They are regarded as simple, endothelial tubes connecting arteries and veins.
 - d. (a), (b), (c) and e
 - e. (a) and (c)
68. The aorta is an example of an elastic artery because:
- a. It has elastic fibres in the tunica intima.

- b. It has smooth muscle fibres in the tunica media.
 - c. It has no adventitia.
 - d. All of the above.
 - * e. **None of the above.**
69. Vasa Vasorum provide a function analogous to that of:
- a. Valves
 - b. Basal lamina
 - * c. **Coronary arteries.**
 - d. Endothelial diaphragm
 - e. Arterioles
70. All of the following statements concerning B cells are TRUE except:
- * a. **They can differentiate into plasma cells.**
 - b. They must interact with macrophages before they can produce antibody.
 - c. They are derived from bone marrow.
 - d. They are abundant in secondary nodules in lymphnodes.
 - e. They are less common than T cells in the peri arterial lymphatic sheaths in the spleen.
71. Regarding the immune system:
- a. Activated T cells differentiate into plasmablasts.
 - b. Helper T cells are responsible for secondary immune response.
 - c. Plasma cells are freely circulating in the blood.
 - d. Each lymphocyte recognises several specific antigens.
 - * e. **Lymphokines enhance the action of macrophages.**
72. The following cell type is involved in antibody production:
- a. Mast cells
 - b. Reticulocytes
 - c. Fibroblasts
 - d. Macrophages
 - * e. **Plasma cells**
73. Which of the following is FALSE about the reticulo-endothelial system:
- a. Is represented in the liver by Kupffer cells.
 - b. Extends to the alveoli of the lung.
 - c. Is also found in the bone marrow.
 - d. The spleen is a major component.
 - * e. **It does not extend to the brain.**
74. On the reticulo-endothelial system:
- a. Mast cells and reticulocytes are involved in antibody production.
 - * b. **Lymphokines enhance the action of macrophages.**
 - c. Helper T cells are responsible for secondary immune response.
 - d. B cells must interact with macrophages before they can produce antibody.

75. Which of the following cells is involved in the synthesis of antibodies:
- Mast cells
 - Fibroblast
 - Reticulocyte
 - Macrophages
 - * **Plasma cells**
76. Allergy is a consequence of the release of histamin and heparin from:
- * **Mast cells, which induces edema and bronchoconstriction.**
 - Plasma cells, which induces antibody release.
 - Eosinophils, which induces protiferation of basophils.
 - Epithelial cells, which induces hyposecretion.
 - Goblet cells which induces hypersecretion.
77. Holocrine glands exist in the:
- Sweat glands.
 - Breasts.
 - Sudoriferous glands.
 - * **Sebaceous glands.**
 - Gastric glands.
78. Regarding exocrine glands, the following statements are TRUE except:
- Brunner's glands are an example of compound tubular glands.
 - * **All glands have basal secretion.**
 - Simple acinar glands are found in the penile urethra.
 - Holocrine secretion involves disintegration of the cells to release the products.
 - Mucous secreting cells are found in stomach glands.
79. The following are mixed glands (Endocrine and exocrine) except:
- Pancreas
 - * **Thyroid**
 - Stomach
 - All the above.
 - None of the above.
80. Regarding the sertoli cells:
- They divide during each wave of spermatogenic cell division.
 - They are found in a 1:1 relationship with spermatogonia, spermatocytes and spermatids.
 - They fail to form junctional complexes with each other.
 - They don't synthesise testosterone.
 - * **They provide protection, support and nutrition for the development of the sperm.**
81. The regulator of Leydig cell secretion is:
- Follicle-stimulating hormone (FSH).
 - * **Lutenizing hormone**
 - FSH releasing factor

- d. Inhibin
 - e. Androgen-binding protein
82. A gland which loses its apical cytoplasm during secretion is called:
- a. Merocrine gland
 - b. Holocrine gland
 - c. Mesocrine gland
 - d. Mepacrine gland
 - * e. **Apocrine gland**
83. The method of secretion of exocrine glands include the following except:
- a. Halocrine
 - b. Apocrine
 - c. Merocrine
 - * d. **Endocrine**
 - e. All the above
84. Which of the following is TRUE about myelination.
- a. In the CNS it is provided by Schwann cells.
 - b. In the peripheral nervous system it is provided by oligodendrocytes.
 - c. Reduces speed of transmission of impulses.
 - d. Satellite cells provide myelination for CNS ganglia.
 - * e. **None of the above.**
85. A fascicle in regard to nervous tissue refers to.
- * a. **Bundle of nerve fibres.**
 - b. A single nerve fibre
 - c. Whole nerve trunk
 - d. A collection of different nerve trunks together.
 - e. A single nerve fibre minus the Schwann cells.
86. Speed of regeneration of nervous tissue in large peripheral nerves is about:
- * a. **5 mm per day**
 - b. 3 mm per day
 - c. 2 mm per day
 - d. 1 mm per day
 - e. 0.5 mm per day
87. Which of the following are glial cells of the peripheral nervous system?
- * a. **Schwann cells**
 - b. Ependymal cells
 - c. Astrocytes.
 - d. Oligodendroglia
 - e. Microglia
88. In neurones:
- a. Axoplasmic flow is from telodendria to dendrites.
 - b. Nissil granules are rich in DNA.
 - * c. **Golgi Type II neurones have long axons.**

- d. Terminal buttons are rich in lysosomes.
 - e. None of the above.
89. Regarding the nervous system:
- a. Microglia are part of the glial cells of the peripheral nervous system.
 - b. Axoplasmic flow in neurones is from telodendria to dendrites.
 - c. Pyramidal cells are typical cortical neurones.
 - * d. **Myelination of nerve fibre increases axon conduction velocity.**
 - e. Oligodendrocytes are considered to be members of the defence system in CNS.
90. The following parts of the sarcomere diminish when a skeletal muscle contracts.
- * a. **H-band**
 - b. A-band
 - c. I-line
 - d. Z-line
 - e. M-line
91. The following tissue is made of multinucleated cells:
- * b. **Skeletal muscle**
 - a. Cardiac muscle
 - c. Smooth muscle
 - d. (a) & (c)
 - e. All of the above.
92. Regarding cardiac muscle:
- a. Contractions are due to hormonal stimuli.
 - b. Intercalated discs slow down the stimulus so that the muscle is not overstimulated.
 - * c. **There is a slow leak of calcium ions into the cytoplasm after recovery from the preceding contraction.**
 - d. It is always multinucleated.
 - e. It fatigues easily.
93. Cardiac muscle:
- a. Has branched fibres
 - b. Has less mitochondria than skeletal muscle.
 - c. Fibres are single cells separated by intercalated discs.
 - d. All the above.
 - * e. **(a) and (c) apply.**
94. The following contain smooth muscle fibres except:
- a. Uterus
 - b. Urinary bladder
 - c. Muscular artery
 - * d. **Myocardium**
 - e. Intestine

95. Regarding muscle:
- a. Skeletal muscle has centrally placed nuclei.
 - b. Smooth muscle has myofibrils.
 - * c. **Cardiac muscle is a syncitium.**
 - d. Smooth muscle is also known as voluntary muscle.
 - e. None of the above.
96. All of the following statements are TRUE of muscle except:
- a. Smooth muscle contracts slowly compared with skeletal muscle.
 - * b. **Muscle cells increase in diameter by adding new myofibrils, a process called hypertrophy.**
 - c. Muscle contraction is dependent on the cystoskeleton.
 - d. Smooth muscle is multi-nucleate.
 - e. Differentiated smooth muscle cells retain the ability to undergo hyperplasia.
97. Which property best identifies a metachromatic structure?
- a. A positive periodic acid-schiff (PAS) reaction.
 - b. A net positive charge.
 - c. Staining with eosin.
 - * d. **Staining with foluidine blue.**
 - e. A high concentration of DNA.

98. Which of the following statement is TRUE concerning the presence of fixation artifacts in histological specimens?

- a. Most preparative techniques do not introduce artifacts.
- b. Hepatocytes cells can be examined microscopically without fixation.
- c. Glutaraldehyde fixation does not introduce artifacts.
- * d. **Staining introduces artifacts under most circumstances.**
- e. The cells nucleus can be interrupted as a fixation artifact.

99. Which of the following cells are fixed in Go phase of cell division.

- * a. **Neurones**
- b. Muscle cells
- c. Liver cells
- d. Cells of the stomach
- e. Cells of the spleen

ANSWERS FOR HISTOLOGY

1. E	26. D	51. A	76. A
2. E	27. E	52. C	77. D
3. E	28. A	53. B	78. B
4. D	29. E	54. C	79. B
5. D	30. C	55. E	80. E
6. A	31. B	56. B	81. B
7. B	32. C	57. D	82. E
8. E	33. B	58. D	83. D
9. B	34. C	59. D	84. E
10. C	35. E	60. E	85. A
11. B	36. B	61. D	86. A
12. D	37. D	62. C	87. A
13. A	38. E	63. A	88. C
14. A	39. B	64. B	89. D
15. E	40. D	65. B	90. A
16. C	41. C	66. E	91. B
17. D	42. E	67. A	92. C
18. E	43. D	68. E	93. E
19. E	44. A	69. C	94. D
20. C	45. D	70. A	95. C
21. A	46. B	71. E	96. B
22. E	47. D	72. E	97. D
23. D	48. E	73. E	98. D
24. A	49. D	74. B	99. A
25. E	50. A	75. E	

