

CANDIDATE NUMBER.....



AFRICA
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**COLLEGE OF HEALTH, AGRICULTURE AND NATURAL
SCIENCES**
DEPARTMENT OF BIOMEDICAL AND LABORATORY SCIENCES
BACHELOR OF MEDICAL LABORATORY SCIENCES HONOURS DEGREE

NSLS210 HISTOLOGY

END OF SECOND SEMESTER FINAL EXAMINATIONS

MAY 2023

LECTURER: DR MAIBOUGE SALISSOU

DURATION: 3 HOURS

INSTRUCTIONS

1. Write your candidate number on the space provided on top of each page
 2. Answer **all** questions in sections A on the question paper.
 3. Answer **all** questions in section B on separate answer sheets provided.
 4. Answer any **3** questions in section C on separate answer sheets provided
 5. The mark allocation for each question is indicated at the end of the question
 6. Credit will be given for logical, systematic and neat presentations in sections B and C
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SECTION A : MULTIPLE CHOICE [40MARKS]

- **Answer all questions by indicating T for TRUE or F for FALSE for each statement in all the questions**
- **Each correct response is allocated half mark**

1. While processing the tissues for paraffin embedding, dehydration is done by immersing the tissue in
 - (a) alcohol only
 - (b) xylene only
 - (c) mixture of alcohol and xylene
 - (d) formalin
2. Immunoglobulin A is found in the secretion of which of the following?
 - (a) Sublingual salivary gland
 - (b) Parotid salivary gland
 - (c) Submandibular salivary gland
 - (d) Palatine gland
3. State whether the following statements are true (T) or false (F):
 - a). Simple gland has many ducts ()
 - b) Glands are specialised epithelial derivatives ()
 - c). Mucous gland secretes thin watery secretion ()
 - d). In a glandular organ, 'stroma' denotes connective tissue framework, whereas 'parenchyma' denotes secretory acini and associated ducts ()
4. Which of the following are true about collagen? It
 - (a) constitutes 30% of the dry body weight
 - (b) is synthesised by fibroblasts
 - (c) is composed of mucopolysaccharides
 - (d) gives gelatin on denaturation

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5. The fat cell of multilocular adipose tissue (brown fat) is characterised by the presence of

- (a) spherical central nucleus and many lipid droplets
- (b) flat peripheral nucleus and single lipid droplet
- (c) flat central nucleus and single lipid droplet
- (d) thin rim of cytoplasm

6. State whether the following statements are true (T) or false (F) regarding connective tissue :

- a) The basic components of connective tissue are cells, fibres and ground substance.
- b) The viscosity of the ground substance is due to the presence of mucopolysaccharides.
- c) The free cells of the connective tissue are responsible for production and maintenance of extracellular matrix.
- d) Collagen fibres are yellow in colour when fresh.

7. A section of hyaline cartilage can be identified by the presence of

- (a) homogeneous matrix
- (b) elastic fibres
- (c) collagen fibres
- (d) chondrocytes arranged in row

8. Elastic cartilage is present in

- (a) tracheal ring
- (b) epiglottis
- (c) intervertebral disc
- (d) costal cartilage

9. Perichondrium is absent in

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- (a) elastic cartilage and hyaline cartilage
- (b) hyaline cartilage and cellular cartilage
- (c) fibrocartilage and articular cartilage
- (d) costal cartilage and ear pinna

10. Which of the following features are true about cartilage?

- (a) Firm and flexible
- (b) Highly vascular
- (c) Insensitive
- (d) Poor in regeneration

11. Chondrocytes are

- (a) derived from monocyte
- (b) involved in phagocytosis
- (c) polyhedral in shape
- (d) found in lacunae

12 State whether the following statements on bone tissue are True (T) or False (F):

- a) Periosteum is essential for bone growth.
- b) Volkmann's canal that interconnects Haversian canals is surrounded by concentric lamellae of bone.
- c) Osteoclasts show alkaline phosphatase activity.
- d) Rickets is characterised by bowing of long bones due to deficient calcification.

13 State whether the following statements on bone tissue are True (T) or False (F):

- a) 5. Flat bones are ossified from cartilage only.
- b) 6. Diaphysis of long bone is formed from primary centre of ossification.
- c) 7. Primary centre of ossification is set on arrival of periosteal bud and usually occurs during intrauterine life.
- d) 8. Epiphyseal plate of a growing long bone is made of elastic cartilage

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- 14 . White pulp of spleen can be identified differentially from the lymphatic nodule of lymph node by the presence of
- (a) germinal centre
 - (b) corona
 - (c) central arteriole
 - (d) lymphocytes
15. A section of lymph node can be identified by the presence of
- (a) thick trabeculae
 - (b) interlobular septum
 - (c) white pulp
 - (d) subcapsular sinus
- 16 The following refers to skeletal muscles
- a) The skeletal muscle fibre is an elongated multinucleated cell
 - b) Myofibroblasts are contractile cells associated with secretory acini
 - c) Perimysium surrounds the entire muscle
 - d) Tubules are present at A-I junction in skeletal muscle
- 17 . Pseudo-unipolar neurons are found in the following ganglion:
- (a) Spinal
 - (b) Spiral
 - (c) Sympathetic
 - (d) Parasympathetic
18. The connective tissue sheath around a nerve is called
- (a) endoneurium
 - (b) perineurium
 - (c) epineurium
 - (d) neurilemmal
- 19 . Atherosclerosis in artery is due to

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- (a) thickening of tunica intima
 - (b) accumulation of lipid in myointimal cells
 - (c) calcification of tunica media
 - (d) all of the above
20. Medium-sized artery is characterised by the presence of
- (a) a well developed internal elastic lamina
 - (b) a well developed subendothelial connective tissue
 - (c) elastic fibres in tunica media
 - (d) smooth muscle fibres in tunica adventitia

SECTION B: [20 MARKS]

Answer all questions on separate answer sheets provided

1. Write short note on Structure of skin add note on melanoma [5]
2. Write short notes on: Layers of epidermis [5]
3. Write short note on Structure of esophagus [5]
4. Write short note on structure of stomach add note on gastric ulcer [5]

SECTION C: [75 marks]

Answer any 3 questions from this section on separate answer sheets provided

1. Give detailed over view on histology of Respiratory bronchioles and its clinical correlate to Hyaline membrane disease of new born and asthma. [25]
2. Give an overview histology of Prostate add note on prostate cancer. [25]
3. Describe histology of cervix and the role of Pap smear in cervical cancer detection. [25]
4. Discuss urothelium and transitional cells carcinomas. [25]
5. Discuss all feature of thyroid gland add note disorders of thyroids glands. [25]