

CANDIDATE NUMBER.....



**COLLEGE OF HEALTH, AGRICULTURE AND NATURAL
SCIENCES**

DEPARTMENT OF BIOMEDICAL AND LABORATORY SCIENCES

BACHELOR OF MEDICAL LABORATORY SCIENCES HONOURS

END OF SEMESTER EXAMINATIONS

NSLS210: HISTOLOGY

NOVEMBER 2023

LECTURER: DR M. 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. 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 [40 Marks]

- **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. In pseudostratified columnar epithelium

- (a) all cells are attached to basement membrane
- (b) all cells do not reach the surface
- (c) the nuclei are situated at different levels
- (d) all of the above are correct

2. Stomach is lined by

- (a) simple columnar epithelium
- (b) stratified squamous epithelium
- (c) pseudostratified columnar epithelium
- (d) simple cuboidal epithelium

3. 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

4. The isotonic primary saliva is converted into hypotonic saliva by secreting and absorbing certain ions by the

- (a) excretory duct
- (b) secretory acini
- (c) interlobar duct
- (d) striated

5. The percentage of volume of saliva secreted by submandibular gland is

- (a) 70

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(b) 40

(c) 25 (d) 5

6. 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) Presence of striated secretory duct is the unique feature of salivary gland

7. The fat cell of multilocular adipose tissue (brown fat) are characterized 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

8. Elastic cartilage is present in

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

9. Perichondrium is absent in

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

10. The following features are true about cartilage

- (a) Firm and flexible
- (b) Highly vascular
- (c) Insensitive

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(d) Poor in regeneration

11. Periosteum is absent over the following

- (a) articular surface of bone
- (b) sesamoid bone
- (c) site of attachment of tendons and ligaments to the bone
- (d) Outer table of flat bone

12. Osteocytes can be identified by the presence of

- (a) many nuclei
- (b) lacuna around the cell
- (c) lysosomes
- (d) ingested particles

13. Alkaline phosphatase activity can be demonstrated in

- (a) osteoblasts
 - (b) osteocytes
 - (c) osteoclasts
 - (d) osteoprogenitor cells
1. Periosteum is essential for bone growth.

14. Indicate if true or false the statement below on histology of bone

- a) Volkmann's canal that interconnects Haversian canals is surrounded by concentric lamellae of bone.
- b) Osteoclasts show alkaline phosphatase activity.
- c) Rickets is characterised by bowing of long bones due to deficient calcification.
- d) Flat bones are ossified from cartilage only.

15. White pulp of spleen can be identified differentially from the lymphatic nodule of lymph node by the presence of

- (a) germinal centre

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- (b) corona
- (c) central arteriole
- (d) lymphocytes

16 . Crypts of palatine tonsil are lined by

- (a) simple squamous epithelium
- (b) stratified squamous nonkeratinized epithelium
- (c) pseudostratified columnar epithelium
- (d) stratified squamous keratinized epithelium

17. Hassall's corpuscles are present in

- (a) lymph node
- (b) spleen
- (c) thymus
- (d) tonsil

18 . A section of lymph node can be identified by the presence of

- (a) thick trabeculae
- (b) interlobular septum
- (c) white pulp
- (d) subcapsular sinus

19. 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

20. Which of the following muscle got good regenerative capacity?

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- (a) Red skeletal muscle
- (b) White skeletal muscle
- (c) Cardiac muscle
- (d) Smooth muscle

SECTION B [20 Marks]

Answer all questions on separate answer sheets provided

1. Write short note on the following

- a) Structure of duodenum add note on duodenal ulcer [5]
- b) Structure of liver [5]
- c) Histology of ureter [5]
- d) Histology of urinary bladder [5]

SECTION C: [75 marks]

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

- 1. Give a detailed over view on histology of Trachea add note on asthma. [25]
- 2. Give an overview histology of Prostate and add notes on prostate cancer. [25]
- 3. Describe histology of cervix and the role of Pap smear in cervical cancer detection. [25]
- 4. Discuss all histological feature of suprarenal gland add note on its disorders. [25]