



"Investing in Africa's Future"

COLLEGE OF HEALTH, AGRICULTURE AND NATURAL SCIENCES

DEPARTMENT OF BIOMEDICAL AND LABORATORY SCIENCES

BACHELOR OF MEDICAL LABORATORY SCIENCES HONOURS

NSLS210: HISTOLOGY

END OF SEMESTER FINAL EXAMINATIONS

APRIL 2025

LECTURER: PROF 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. 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 the correct response T for TRUE or F for FALSE for each statement in all the questions**
- **Each correct response is allocated half a mark.**

Question 1. Glycocalyx present in the absorptive epithelium of small intestine serve the following purposes

- (a) increases the surface area for absorption
- (b) transports the absorbed material
- (c) concentrates ions prior to absorption
- (d) participates in the digestion of carbohydrates

Question 2. The following are characteristics of pseudo stratified 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

Question 3. The isotonic primary saliva is converted into hypotonic saliva by secreting and absorbing certain ions by the following

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

Question 4. Large number of elastic fibres are present in the following connective tissues

- (a) tendon
- (b) ligamentum nuchae
- (c) basement membrane
- (d) aponeurosis

Question 5. The following are characteristics of collagen

- (a) Constitutes 30% of the dry body weight
- (b) is synthesised by fibroblasts
- (c) is composed of mucopolysaccharides
- (d) gives gelatin on denaturation

Question 6. The fat cell of multilocular adipose tissue is 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

Question 7. Elastic cartilage is present in the following

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

Question 8. Perichondrium is present in the following

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

Question 9. Osteocytes can be identified by the presence of the following

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

Question 10. Alkaline phosphatase activity can be demonstrated in the following

- (a) osteoblasts

- (b) osteocytes
- (c) osteoclasts
- (d) osteoprogenitor cells

Question 11. Thymus has the following features

- (a) is a central lymphoid organ
- (b) has no reticular fibres and reticular cells
- (c) involutes after puberty
- (d) is formed by B lymphocytes

Question 12. Thymus-dependent zone of a lymph node is

- (a) cortex
- (b) paracortex
- (c) medullary cords
- (d) medullary sinuses.

Question 13. White pulp of spleen can be identified differentially from the lymphatic nodule of lymph node by the presence of the following

- (a) germinal centre
- (b) corona
- (c) central arteriole
- (d) lymphocytes

Question 14. Hassall's corpuscles are present in the following

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

Question 15. Purkinje fibres of heart are made of the following

- (a) autonomic nervous plexus
- (b) collagen fibres

- (c) modified cardiac muscle fibres
- (d) modified nerve fibres

Question 16. Loose connective tissue supporting the muscle fibres are called

- (a) perimysium
- (b) endomysium
- (c) epimysium
- (d) endoneurium

Question 17 The connective tissue sheath around a nerve are called

- (a) endoneurium
- (b) perineurium
- (c) epineurium
- (d) neurilemma

Question 18. A large artery is characterised by the presence of the following

- (a) a well developed internal elastic lamina
- (b) elastic fibres in tunica media
- (c) smooth muscle fibres in tunica adventitia
- (d) mesothelial lining

Question 19: To facilitate absorption, the luminal surface area of small intestine is increased manifold due to the presence of

- (a) plica circulares
- (b) intestinal villi
- (c) microvilli
- (d) all of the above

Question 20. Paneth cells are present in the following

- (a) rectum
- (b) colon
- (c) small intestine T
- (d) stomach

SECTION B (20 Marks)

Answer all questions on separate answer sheets provided

1. Write short notes on the following

- (a) Layers of epidermis [5]
- (b) Structure of Ureter [5]
- (c) Structure of Appendix [5]
- (d) Structure of Trachea [5]

SECTION C: [75 marks]

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

- 1. Discuss on Haversian system [25]
- 2. Describe the microscopic features of the Prostate and add notes on benign prostatic hyperplasia. [25]
- 3. Discuss the histology of Cervix [25]
- 4. Describe all the key points about adrenal gland zona (layers) histology and add notes on clinical correlates [25]
- 5. Discuss on histology of Spleen and add notes on clinical correlate [25]

END