

CANDIDATE NUMBER.....



AFRICA
UNIVERSITY
A United Methodist-Related Institution

“Investing in Africa’s Future”

COLLEGE OF HEALTH, AGRICULTURE AND NATURAL SCIENCES

DEPARTMENT OF BIOMEDICAL AND LABORATORY SCIENCES

BACHELOR OF MEDICAL LABORATORY SCIENCES HONOURS DEGREE

NSLS106: ANATOMY & PHYSIOLOGY

END OF SECOND SEMESTER FINAL EXAMINATIONS

NOVEMBER, 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 **4** 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 [40 MARKS]

- **Answer all questions by indicating the correct response using a T for TRUE or F for FALSE for each statement in all the questions**
- **Each question carries 2 marks**

Question1. The hepatic sinusoids

- receive blood from the hepatic artery.
- receive blood from the hepatic portal vein.
- empty into the central veins.
- all of the above.

Question 2. Given these ducts:

- common bile duct
- common hepatic duct
- cystic duct
- hepatic ducts

Indicate the arrangement that lists the ducts in the order bile passes through them when moving from the bile canaliculi of the liver to the small intestine.

- 3,4,2
- 3,4,1
- 3,2,1
- 4,2,1

Question 3. These bones contain a paranasal sinus

- ethmoid
- sphenoid
- frontal
- temporal

Question 4. These joint is /are the most movable

- sutures
- syndesmoses
- symphises
- synovial

Question 5: These joints contains periodontal ligaments

- sutures
- syndesmoses
- symphises
- synovial

Question 6. These are major functional characteristic of muscle

- a contractility
- b elasticity
- c excitability
- d extensibility

Question 7: The connective tissue sheath that surrounds a muscle fasciculus is/are the

- a perimysium.
- b endomysium.
- c epimysium.
- d hypomysium.

Question 8: The pelvic cavity contains the following

- a kidneys.
- b . spleen.
- c liver.
- d stomach.

Question 9: The lungs are

- a. part of the mediastinum.
- b. surrounded by the pericardial cavity.
- c. found within the thoracic cavity.
- d. separated from each other by the diaphragm.

Question 10: these areas of the body contain thick skin

- a. back of the hand
- d. bridge of the nose
- b. abdomen
- c. over the shin

Question 11: Transverse foramina are found only in

- a. cervical vertebrae.
- c. lumbar vertebrae.
- b. thoracic vertebrae.
- d. the sacrum.

Question 12: Which of these statements concerning ribs are true?

- a. The true ribs attach directly to the sternum with costal cartilage.
- b. There are five pairs of floating ribs.

- c. The head of the rib attaches to the transverse process of the vertebra.
- d. Vertebrochondral ribs are classified as true ribs.

Question 13: The point where the scapula and clavicle connect is the

- a. coracoid process.
- c. glenoid cavity.
- b. styloid process.
- d. acromion process.

Question14: The distal medial process of the humerus to which the ulna joins are

- a. epicondyle.
- c. malleolus.
- b. deltoid tuberosity.
- d. capitulum

Question15: When comparing a male pelvis with a female pelvis, which of these statements are true?

- a. The pelvic inlet in males is larger and more circular.
- b. The subpubic angle in females is less than 90 degrees.
- c. The ischial spines in males are closer together.
- d. The sacrum in males is broader and less curved

Question16: Which of these are not associated with synovial joints?

- a. perichondrium on the surface of articular cartilage
- b. fibrous capsule
- d. synovial fluid
- c. synovial membrane

Question17: Myosin myofilaments are attached to the Z disk.

- b. found primarily in the I band.
- c. thinner than actin myofilaments.

- d. absent from the H zone.
- a. attached to filaments that form the M line.

Question 18. These statements about the molecular structure of myofilaments are true

- a. Tropomyosin has a binding site for Ca²⁺.
- b. The head of the myosin molecule binds to an active site on G actin.
- c. ATPase is found on troponin.
- d. Troponin binds to the rodlike portion of myosin.

Question 19: The part of the sarcolemma that invaginates into the interior of the skeletal muscle cells are?

- a. T tubule system.
- d. terminal cisternae.
- b. sarcoplasmic reticulum.
- c. myofibrils.

Question 20: Hyper secretion of growth hormone

- a. results in gigantism if it occurs in children.
- b. causes acromegaly in adults.
- d. can lead to severe atherosclerosis.
- c. all of the above.

SECTION B: [20 MARKS]

Answer four questions of your choice on separate answer sheets provided

- 1) Compare and contrast endocytosis exocytosis and mediated transport. [5 marks]
- 2) Describe the anatomy of urinary bladder [5 marks]
- 3) Write Short note on anatomy of stomach [5 marks]
- 4) Differentiate between fibrocartilage and elastic cartilage [5 marks]
- 5) Write short essay accessory skin structures hair [5 marks]
- 6) Write short essay fibrous joints [5 marks]
- 7) Write short note on cardiac cycle [5 marks]

SECTION C: [75 marks]

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

- 1) Discuss Calcium Homeostasis [25]
- 2) Describe anatomy of Knee Joints [25]
- 3) Give a detailed account of Function of Neuromuscular Junction in relation to Excitation–Contraction Coupling [25]
- 4) Explain renal function test
- 5) Describe Autonomic nervous system
- 6) Discuss the gross anatomy of the heart [25 marks]
- 7) Describe anatomy of pituitary gland [25 marks]