

CHUKA



UNIVERSITY

**UNIVERSITY EXAMINATIONS**

**FIRST YEAR EXAMINATION FOR THE AWARD OF  
BACHELOR OF SCIENCE (NURSING)**

**NURU 111: HUMAN ANATOMY I**

**STREAMS: Bsc Nursing (upgrading)**

**TIME:2 HOURS**

**DAY/ DATE: TUESDAY 14/04/2020**

**11.30 AM – 1.30 PM**

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**INSTRUCTIONS TO CANDIDATES**

- Do not write anything on the question paper.
- Mobile phones and any other reference materials are **NOT** allowed in the examination room.
- The paper has three (3) Sections. **ALL** the questions are compulsory
- Your answers for Section A (MCQs) should be on the first page of the answer Booklet.
- Number **ALL** your answers and indicate the order of appearance in the space provided in the cover page of the examination answer booklet.

**SECTION A: MULTIPLE CHOICE QUESTIONS (20 marks)**

1. Which of the following constituent is found only in the outer leaflet of the plasma membrane:
  - a) Glycolipids
  - b) Cholesterol
  - c) Prostaglandins
  - d) Integral protein
2. Concerning cholesterol found in the plasma membrane:
  - a) It is hydrophobic
  - b) May be attached to an oligosaccharide
  - c) Makes the plasma membrane more fluid
  - d) Forms part of the glycocalyx
3. The following statement is **TRUE** concerning the mitochondrion:
  - a) Has a freely permeable inner membrane
  - b) Most of the enzymes are located in the intermembranous space
  - c) More numerous in phagocytes

- d) Capable of self –replication
4. The following is true concerning the lysosomes:
- a) More abundant in hepatocytes
  - b) Has a single limiting membrane
  - c) Contain enzyme catalase
  - d) Forms from centrioles
5. Which of the following is associated with telophase of mitosis:
- a) Shortening and thickening of chromosomes
  - b) Aligning of the chromosomes at the exact centre
  - c) Break down of mitotic spindle
  - d) Break down of nuclear envelope
6. The phase of the cell cycle when synthesis of enzymes and other cytosolic proteins occur is:
- a) G1
  - b) G2
  - c) S
  - d) M
7. Adhesion proteins that form hemidesmosome is:
- a) Integrin
  - b) Laminin
  - c) Cadherin
  - d) Collagen
8. Epithelial lining of the heart and blood vessels is:
- a) Simple squamous
  - b) Stratified squamous
  - c) Stratified columnar
  - d) Simple cuboidal
9. An example of Holocrine gland is:
- a) Pancreas
  - b) Sweat
  - c) Sebaceous
  - d) Salivary
10. Tendons and ligaments are examples of :
- a) Cartilage
  - b) Dense connective tissue
  - c) Bone
  - d) Loose connective tissue

11. Connective tissue that separates and encircles bundles of muscle fibres to form Fascicles is:
- a) Epimysium
  - b) Perimysium
  - c) Endomysium
  - d) Tendon
12. Motor neurons are mainly:
- a) Anaxonic
  - b) Bipolar
  - c) Unipolar
  - d) Multipolar
13. Neuroglial cell responsible for the creation of a blood brain barrier is:
- a) Astrocyte
  - b) Microglia
  - c) Epenymal
  - d) Satellite
14. Pyrimidine associated with RNA only is:
- a) Thymine
  - b) Uracil
  - c) Adenine
  - d) Guanine
15. Which of the following correctly describes splicing:
- a) Enzyme induced methylation
  - b) Formation of mRNA strand from DNA
  - c) Removal of superfluous introns
  - d) Fusion of broken end of chromosome after deletion
16. The phase of spermiogenesis when the annulus and neck are formed is:
- a) Cap
  - b) Acrosomal
  - c) Golgi
  - d) Maturation
17. The hormone responsible for re-epithelialization of the endometrium after menses is:
- a) Follicle stimulating hormone
  - b) Luteinizing hormone
  - c) Progesterone
  - d) Oestrogen
18. Which of the following structures arise from the embryonic mesoderm:
- a) Muscles, bones
  - b) Spinal cord, skin

- c) Epithelium, inner ear
- d) Brain, spinal cord

19. The region of the primitive heart that gives rise to the ascending aorta and pulmonary trunk is:

- a) Sinus venosus
- b) Truncus arteriosus
- c) Bulbous cordis
- d) Primitive ventricle

20. Which of the following structures arise from the metanephric mesoderm:

- a) Nephrons
- b) Ureter
- c) Urinary bladder
- d) Collecting ducts

**SECTION B: SHORT ANSWER QUESTIONS (35 Marks)**

1. Outline five(5) functional proteins found in the plasma membrane[5 marks]
2. State four(4) features of somatic cell division [ 4 marks]
3. Explain the three (3) types of epithelial membranes [6 marks]
4. Differentiate between smooth and skeletal muscle tissues [5 marks]
5. Draw a well labelled diagram of a typical chemical synapse [5 marks]
6. State three (3) shunts that are found in the fetal circulation  
indicating the fate of each [6 marks]
7. Describe the secretory phase of the menstrual cycle [ 4 marks]

**SECTION C: LONG ANSWER QUESTION (15 Marks)**

Describe the components of the connective tissue 15 marks

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