



**AMREF INTERNATIONAL UNIVERSITY  
SCHOOL OF MEDICAL SCIENCES  
DEPARTMENT OF NURSING & MIDWIFERY SCIENCES  
BACHELOR OF SCIENCE IN NURSING (PRESERVIVE & UPGRADING)  
END OF TRIMESTER EXAMINATIONS AUGUST 2022**

**UNIT CODE: BSM 112 UNIT NAME : HUMAN ANATOMY I**

**DATE: 27<sup>th</sup> July, 2022**

**TIME: 2 Hours**

**Start: 9:00 AM**

**Finish: 11:00 AM**

**Instructions**

1. Your exam has three sections:
  - a. Section A – Multiple Choice Questions, of 20 marks
  - b. Section B – Short Answer Questions of 30 marks
  - c. Section C – Long Answer Questions of 20 marks
2. Answer all questions
3. Write all your responses in the answer booklet provided
4. In section A, choose one correct response and write your responses on the 1<sup>st</sup> page of the exam booklet
5. For section B, answer the questions in order, skip at least 2 lines between questions and label the question numbers appropriately
6. In section C, answer each question on a separate page

## SECTION I: MULTIPLE CHOICE QUESTIONS

[20 Marks]

1. Cilia is abundant in the:
  - A. Urinary tract
  - B. Intestinal tract
  - C. Fallopian tube
  - D. Male reproductive ducts
2. The chromosomal disorder CORRECTLY matched with its karyotype is:
  - A. Turner's syndrome – 45X0
  - B. Klinefelter's syndrome – XYY
  - C. Patau's syndrome – Trisomy 21
  - D. Edward's syndrome – Trisomy 13
3. In humans, the meiotic phase with the longest duration is:
  - A. Anaphase I in males
  - B. Prophase II in males
  - C. Prophase I in females
  - D. Anaphase II in females
4. The epithelial type CORRECTLY matched with its occurrence is:
  - A. Stratified squamous – tongue
  - B. Simple columnar – corneal epithelium
  - C. Transitional epithelium – Fallopian tube
  - D. Pseudostratified columnar – the vocal cords
5. Connective tissue fibers include:
  - A. Purkinje, elastic and reticular fibers
  - B. Purkinje, elastic and collagen fibers
  - C. Reticular, elastic and collagen fibers
  - D. Purkinje, reticular and collagen fibers
6. The bone cell type that breaks down the bone matrix is:
  - A. Osteocytes
  - B. Osteoclasts
  - C. Osteoblasts
  - D. Osteoprogenitor
7. The cartilage type that lines the end of long bones in synovial joints is:
  - A. Fibrocartilage
  - B. Elastic cartilage
  - C. Hyaline cartilage
  - D. Cellular cartilage
8. Morula is a developmental stage which occurs;
  - A. After the implantation
  - B. Between the zygote and blastocyst
  - C. Between the blastocyst and gastrula
  - D. Between implantation and parturition

9. The normal testicular temperature necessary for its optimal functioning is around \_\_\_\_\_ below the normal body temperature
- A. 2-3°C
  - B. 4-5°C
  - C. 33-36°C
  - D. 31-34°C
10. The phenotypic sex is determined by;
- A. At fertilization by the male gamete
  - B. At fertilization by the female gamete
  - C. Around 6-10 weeks of gestation by the SRY gene
  - D. By the activity of the androgen hormones on the indifferent genitalia
11. The endometrial thickness is greatest during the:
- A. Secretory phase
  - B. Menstrual phase
  - C. Proliferative phase
  - D. Late follicular phase
12. Dichorionic-diamniotic twins result from separation of embryonic cells at the:
- A. Four-cell stage
  - B. Blastocyst stage
  - C. Implantation stage
  - D. Trilaminar disc stage
13. Amniotic fluid index of 18 cm in the 3rd trimester is interpreted as:
- A. Hydrops fetalis
  - B. Normal amniotic fluid volume
  - C. Reduced amniotic fluid volume
  - D. Increased amniotic fluid volume
14. The cervical spine has how many vertebrae?
- A. 2
  - B. 5
  - C. 7
  - D. 8

15. The inner part of the intervertebral disc is called the:
- A. Nucleus fibrosus
  - B. Annulus fibrosus
  - C. Nucleus pulposus
  - D. Annulus pulposus
16. The pectoral girdle consists of the:
- A. Sternum and scapula
  - B. Clavicle and scapula
  - C. Sternum and clavicle
  - D. Scapula and humerus
17. The main commissural fiber in the brain is:
- A. Corpus callosum
  - B. Anterior commissure
  - C. Posterior commissure
  - D. Hippocampal commissure
18. Failure of closure of the cranial neural pore causes:
- A. Anencephaly
  - B. Hydrocephaly
  - C. Hydrocephalus
  - D. Chiari malformation
19. The olfactory nerves goes through the \_\_\_\_\_ to enter the cranial cavity
- A. Foramen ovale
  - B. Cribriform plate
  - C. Foramen spinosum
  - D. Superior orbital fissure
20. A 5-day-old infant male has an abnormally large head. A CT scan examination reveals enlarged lateral and third ventricles but a normal-size fourth ventricle. Which of the following conditions is likely to cause this presentation?
- A. Holoprosencephaly
  - B. Disorder of prosencephalon
  - C. Stenosis of aqueduct of Sylvius
  - D. Meningitis with blockage of arachnoid villi

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**SECTION II: SHORT ANSWER QUESTIONS**

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**[30 Marks]**

1. State five (5) histological features of skeletal muscle cells (5 marks)
2. State five (5) functions of the amniotic fluid (5 marks)
3. Outline the arterial tree of the lower limb from the common femoral artery (5 marks)
4. Explain the following regarding the median nerve:
  - a) Cord of origin (1 mark)
  - b) Distribution (2 marks)
  - c) Effects of injury (2 marks)
5. Name five (5) sensory receptors on the skin and indicate the role of each (5 marks)
6. Draw a well labeled diagram illustrating the cross-sectional anatomy of the spinal cord (5 marks)

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**SECTION III: LONG ANSWER QUESTIONS**

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**[20 Marks]**

1. Use a labeled diagram to illustrate the sagittal anatomy of the eye (10 marks)
2. Explain any five congenital malformations of the central nervous system (10 marks)