



**AMREF INTERNATIONAL UNIVERSITY
SCHOOL OF MEDICAL SCIENCES
DEPARTMENT OF NURSING & MIDWIFERY SCIENCES
MARCH 2024 SUPPLEMENTARY EXAMINATIONS**

COURSE CODE: BSN 112 / BSM 112 UNIT NAME: HUMAN ANATOMY I

DATE: 19TH MARCH 2024

Duration: 2 HOURS

Start: 8:00 AM

Finish: 10:00 AM

INSTRUCTIONS

- 1. This exam is out of 70 marks**
- 2. This Examination comprises THREE Sections. Section I: Multiple Choice Questions (20 marks) Section II: Short Answer Questions (30 marks) and Section III: Long Answer Questions (20 marks)**
- 3. Answer ALL Questions.**
- 4. Do Not write anything on the question paper -use the back of your booklet for rough work if need be.**

SECTION A: MULTIPLE CHOICE QUESTIONS:

20 MARKS

1. A haploid cell has: -
 - A. 23 pairs of chromosomes
 - B. 22 autosomes and one sex chromosome
 - C. 22 autosomes and one X chromosome
 - D. 22 autosomes and one Y chromosome
2. The outcome of two sperms fertilizing a single oocyte is: -
 - A. Twin pregnancy
 - B. Triplet pregnancy
 - C. A Trisomy syndrome
 - D. A monosomy syndrome
3. Separation at the beginning of implantation process would lead to: -
 - A. Conjoined twins
 - B. Dichorionic-diamniotic twins
 - C. Monochorionic-diamniotic twins
 - D. Monochorionic-monoamniotic twins
4. The correct statement about the human menstrual cycle is: -
 - A. Ovulation always occurs at the midpoint of the menstrual cycle
 - B. The menstrual cycle's main function is to regularly replace the lining of the cycle
 - C. The menstrual cycle is a 28-day reproductive cycle in all women
 - D. The menstrual cycle is an endocrine cycle regulating reproductive physiological changes
5. Choose the fetal membrane **correctly** matched with its associated congenital anomaly: -
 - A. Allantois – Merkel's diverticulum
 - B. Umbilical vesicle – Bladder diverticulum
 - C. Chorion – Placenta previa
 - D. Amnion – limb amputations
6. Polyhydramnios may be caused by: -
 - A. Premature rupture of membranes
 - B. Esophageal atresia
 - C. Posterior urethral valves
 - D. Renal agenesis
7. The internal ear is located within which skull bone: -
 - A. Petrous
 - B. Basilar
 - C. Sphenoid
 - D. Mastoid
8. The type of cartilage is found at joint surfaces is: -
 - A. Fibrocartilage
 - B. Elastic

- C. Hyaline
- D. Elastin

9. Mr. A suffered muscle pain after carrying heavy planks of wood on his shoulder. The most likely affected muscle is: -
- A. Latissimus dorsi
 - B. Deltoid
 - C. Levator scapula
 - D. Supraspinatus
10. One of the following is a muscle of the forearm: -
- A. Thenar eminence
 - B. Brachialis
 - C. Palmaris longus
 - D. Adductor pollicis
11. An injection is administered through the skin using a subcutaneous needle. Identify the first integumentary structure through which the needle will pass through: -
- A. Hypodermis
 - B. Reticular layer
 - C. Papillary layer
 - D. Epidermis
12. Concerning the development of the central nervous system: -
- A. cranial neuro pore closes by day 20
 - B. caudal neuro pore closes by day 28
 - C. Failure of closure of the cranial neuro pore results in spina bifida
 - D. Failure of closure of the caudal neuro pore results in anencephaly
13. Obstruction to the flow of CSF at the aqueduct will most likely lead to the enlargement of: -
- A. Fourth
 - B. Only lateral ventricle
 - C. Both lateral and third ventricles
 - D. Only third ventricles
14. 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. The condition that is causing this presentation is: -
- A. Tetralogy of Fallot
 - B. Disorder of prosencephalon
 - C. Stenosis of aqueduct of Sylvania
 - D. Meningitis with blockage of arachnoid villi
15. In the CNS, the term “nucleus” refers to: -
- A. Bundle of functionally related axons
 - B. Cluster of functionally related neuronal cell bodies
 - C. Collection of purkinje cells in the cerebellum
 - D. Aggregate of pyramidal cells in the cerebral cortex
16. The primary sensory cortex is located in: -

- A. Post central gyrus
- B. Precentral gyrus
- C. Brodmann's area 44
- D. Precentral sulcus

17. The true statement about sympathetic nervous system is: -
- A. Long preganglionic and short postganglionic
 - B. Short preganglionic and long postganglionic
 - C. Preganglionic nerves produce epinephrine and postganglionic nerves produce acetylcholine
 - D. Fibers originate from craniosacral
18. Blood is prevented from back-flowing into the right ventricle by the: -
- A. Pulmonary semilunar valve
 - B. Aortic semilunar valve
 - C. Tricuspid valve
 - D. Mitral valve
19. The source of nutrients to the fibula is: -
- A. Posterior tibial artery
 - B. Peroneal artery
 - C. Anterior tibial artery
 - D. Femoral artery
20. Pulmonary surfactant increases: -
- A. The surface tension of the fluid lining alveolar walls
 - B. Lung compliance
 - C. Ineffectiveness as the lungs are inflated
 - D. In amount when the pulmonary blood flow is interrupted

SECTION B: SHORT ANSWER QUESTIONS:

40 MARKS

1. Using a flow chart, outline the process of oogenesis. (5 marks)
2. Outline the phases of the cell cycle. (5 marks)
3. State five (5) characteristics of epithelial tissues. (5 marks)
4. Outline five (5) events that occur in the 2nd week of human embryonic development. (5 marks)
5. State five (5) congenital heart diseases that would present with primary cyanosis at the time of birth. (5 marks)
6. Outline five (5) anatomical differences between the skull of a neonate and that of an adult. (5 marks)
7. Label five (5) types of synovial joints and a location of each. (5 marks)
8. Describe five (5) muscles located in the posterior leg. (5 marks)

SECTION C: LONG ANSWER QUESTIONS:

40 MARKS

1. The nervous system comprises the brain and spinal cord that collect, interpret, and direct body impulses.
 - a) Trace the flow of the cerebrospinal fluid in the brain. (8 marks)
 - b) Label the twelve (12) cranial nerves and indicate one (1) function for each. (12 marks)
2. The respiratory system is important in transport of respiratory gases in and out of the body.
 - a) Describe the anatomical conducting zone of the respiratory system and also state their divisions. (12 marks)
 - b) Illustrate the components of the air blood barrier. (8 marks)

END