



THE CATHOLIC UNIVERSITY OF EASTERN AFRICA

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SEPTEMBER –DECEMBER 2021

FACULTY OF SCIENCE

DEPARTMENT OF COMMUNITY HEALTH AND DEVELOPMENT

REGULAR PROGRAMME

HBMS 100: HUMAN ANATOMY

Date: DECEMBER 2021

Duration: 3 Hours

INSTRUCTIONS: ANSWER ALL QUESTIONS IN THE BOOKLET PROVIDED

SECTION A: MULTIPLE CHOICE QUESTIONS

(20 MARKS)

1. Which of the following occurs during prophase of meiosis I?
 - A. Pairing of sister chromatids to form tetrads
 - B. Alignment of chromosomes at the metaphase plate
 - C. Disintegration of nucleus and nucleolus
 - D. Condensation of chromatin into chromosomes
2. The epithelium lining gastrointestinal tract and duct of many glands is:
 - A. Non-ciliated columnar
 - B. Simple squamous
 - C. Pseudostratified ciliated columnar
 - D. Non keratinized stratified squamous
3. A young boy with a fracture of the medial epicondyle of the humerus is likely to injure which nerve:
 - A. Circumflex
 - B. Ulnar
 - C. Radial
 - D. Median
4. Carpal bones that articulate with the metacarpal bones include:
 - A. Trapezium

- B. Triquetral
 - C. Scaphoid
 - D. Lunate
5. After a car accident the driver was noted to have clear fluid (cerebral spinal fluid) draining from his nose. The bone which is most likely fractured is the:
- A. Frontal
 - B. Nasal
 - C. Ethmoid.
 - D. Lacrimal
6. Which of the following is true concerning blood cells?
- A. Neutrophils and monocytes are granulocytes
 - B. Red Blood cells contain a small nucleus
 - C. Neutrophils are the most abundant of the leukocytes
 - D. Basophils are phagocytic cells
7. The following are true concerning the urinary system except?
- A. The ureter of an adult male is 25 cm long
 - B. The right kidney is lower than the left one
 - C. The ureter is lined by transitional epithelium
 - D. Prostatic urethra is the narrowest part of the male urethra
8. Parts of the conducting system of respiratory system includes:
- A. Larynx, terminal bronchioles
 - B. Bronchi, bronchioles
 - C. Bronchi, alveolar sacs
 - D. Alveoli, alveolar ducts
9. Muscles of the neck include:
- A. Trapezius, latissimus dorsi
 - B. Sternocleidomastoid, buccinators
 - C. Platysma, sternocleidomastoid
 - D. Platysma, orbicularis oculi
10. John suffered muscle pain after carrying heavy planks of wood on his shoulder. Which of the following muscles was most likely affected?
- A. Latissimus dorsi
 - B. Deltoid
 - C. Levator scapula
 - D. Supraspinatus
11. The following are heads of the pectoralis major except:
- A. Clavicular

- B. Thoracolumbar
- C. Sternocostal
- D. Abdominal

12. An athlete suffered fatigue in his hamstrings. Which of the following muscles is odd out in this case?
- A. Biceps femoris
 - B. Quadriceps femoris
 - C. Semitendinosus
 - D. Semimembranosus
13. Major salivary glands include:
- A. Parotid, lingual
 - B. Submandibular, lingual
 - C. Parotid, sublingual
 - D. Palatal, sublingual
14. Which of the following are not synovial joints?
- A. Wrist, shoulder
 - B. Hip, knee
 - C. Elbow, intercarpal
 - D. Pubic symphysis, intercarpal
15. Which one of the following statements is true concerning the cerebral cortex?
- A. Left hemisphere controls the left side of the body
 - B. Right and left hemispheres are completely symmetrical
 - C. Primary motor area is found in the parietal lobe
 - D. Primary visual area is found in the occipital lobe
16. A collection of neural cell bodies outside the central nervous system is called:
- A. Nucleus
 - B. Ganglion
 - C. Plexus
 - D. Receptor
17. The neuroglial cells in the central nervous system are except?
- A. Astrocytes
 - B. Schwann cells.
 - C. Oligodendrocytes.
 - D. Ependymal cells.
18. The following statement are true concerning the endocrine glands except?
- A. Parathyroids are four (4) in number

- B. Pancreas is a mixed endocrine and exocrine gland
- C. Adrenal glands are present below the kidneys
- D. Endocrine cells are found in the kidneys.

19. Which of the following is correct concerning the female reproductive system?

- A. The ovum is usually fertilized in the ampulla of the uterine tube
- B. The myometrium consists of two (2) layers of muscles
- C. The anterior wall of the vagina is longer than the posterior
- D. Isthmus is the narrowest part of the fallopian tube

20. The following are true about the heart except:

- A. Right ventricle is thicker than the left one
- B. Blood supply to the heart is derived from coronary arteries
- C. Superior vena cava opens into the right atrium
- D. Mitral valve separates left atrium and ventricle

SECTION B: SHORT ANSWER QUESTIONS **(40 MARKS)**

1. Giving an example of each, classify bones based on their shape. **(5 marks)**
2. (a) State three (3) differences between the Right and Left lung. **(3 Marks)**
 (b) Briefly explain two (2) ways in which the alveoli are adapted for its function. **(2 marks)**
3. Using a well labeled diagram, outline the main parts of a nerve cell. **(5 Marks)**
4. Explain the three (3) types of muscles and give one example where each is found. **(5 Marks)**
5. (a) State three (3) differences between an artery and a vein. **(3 Marks)**
 (b) List three (3) branches of the thoracic aorta **(2 marks)**
6. Describe the structural organization of the uterine wall. **(5 Marks)**
7. Describe the structure of the dermis of the skin. **(5 marks)**
8. Illustrate the anatomical features of the eye. **(4 marks)**

SECTION C: ESSAY **(40 MARKS)**

1. Human beings require the kidneys which removes wastes from our bloodstream:
 - a) Draw a well – labeled diagram of the Nephron. **(4 marks)**
 - b) Briefly describe the two (2) types of nephrons. **(8 marks)**
 - c) Describe the structural organizations of the filtration membrane at the glomerular capsule. **(8 marks)**

2. After fertilization the zygote develops through the pre-embryonic and embryonic stages. Eventually it becomes a fetus where the body systems develop:
- a) Describe the process of fertilization **(6 marks)**
 - b) Describe the process of organogenesis, detailing from which germ layers all other body systems develop **(14 marks)**

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