



**THE CATHOLIC UNIVERSITY OF EASTERN AFRICA**

**A. M. E. C. E. A**

P.O. Box 62157

00200 Nairobi - KENYA

**MAIN EXAMINATION**

Telephone: 891601-6

Ext 1022/23/25

**SEPTEMBER –DECEMBER 2021**

**FACULTY OF SCIENCE**

**DEPARTMENT OF COMMUNITY HEALTH AND DEVELOPMENT**

**REGULAR PROGRAMME**

**C/D/CHD 121: HUMAN ANATOMY AND PHYSIOLOGY**

**Date: DECEMBER 2021**

**Duration: 3 Hours**

**INSTRUCTIONS: INSTRUCTIONS: ANSWER ALL QUESTIONS IN THE BOOKLET PROVIDED**

**SECTION A: MULTIPLE CHOICE QUESTIONS**

**(20 MARKS)**

1. Tissue that provides physical protection, controls permeability, and produces specialized secretions:
  - A. Muscle
  - B. Nervous
  - C. Connective
  - D. Epithelium
2. Negative feedback:
  - A. Output increases the original stimulus
  - B. Output shuts off the original stimulus
  - C. Is exemplified by enhanced of labor contractions by oxytocin at birth
  - D. None of the above
3. The most important minerals stored in bones are:
  - A. Calcium and iron
  - B. Calcium and potassium
  - C. Calcium and phosphorus
  - D. Sodium and phosphorus
4. A bone fracture where the bone is broken into many fragments:

- A. Compound fracture
  - B. Simple fracture
  - C. Comminuted fracture
  - D. Greenstick fracture
5. The type of muscle that consists of single, very long, cylindrical, multinucleate cells with very obvious striations is:
- A. Skeletal
  - B. Cardiac
  - C. Smooth
  - D. All of the above
6. Which of the following does not describe cardiac muscle tissue?
- A. Rhythmic contractions
  - B. Involuntary
  - C. Striations
  - D. Multinucleate
7. The cerebellum:
- A. Calculates the best way to perform a movement
  - B. Plays a role in language and problem solving
  - C. Recognizes and predicts sequences of events
  - D. All of the above
8. Important centers for control of heart rate, blood vessel diameter, breathing, swallowing and coughing:
- A. Cerebrum
  - B. Cerebellum
  - C. Medulla
  - D. Basal ganglia
9. Which of the following is a blood clotting disorder?
- A. Polycythemia
  - B. Hemophilia
  - C. Leukocytosis
  - D. Anemia
10. The universal recipients have blood type:
- A. A
  - B. B
  - C. AB
  - D. O
11. Which blood type(s) can a person with blood type O receive?

- A. A
- B. A, B, AB, or O
- C. B
- D. O

12. Which of the following vessels carry the most blood at any given time in the body?

- A. Vena cava
- B. Aorta
- C. Arteries
- D. Veins

13. Pulmonary veins:

- A. Split off the pulmonary trunk
- B. Transport oxygenated blood to the heart
- C. Return blood to the right atrium of the heart
- D. Transport oxygenated blood to the lungs

14. Vaccines are not for:

- A. Tetanus
- B. Snake bites
- C. Measles
- D. Polio

15. All the following are true about the HIV virus except?

- A. Attacks the T lymphocytes
- B. Leads to the attack of opportunistic diseases
- C. It is a DNA virus
- D. Once the virus leaves its target cell, this cell dies

16. The most important chemical stimuli leading to increased rate and depth of breathing is:

- A. Emotional factors
- B. Hormonal and enzymatic functions
- C. Levels of oxygen and carbon dioxide
- D. Physical exercise

17. Which of the following are currently the most damaging and disabling respiratory diseases?

- A. Lung cancer and asthma
- B. Chronic obstructive pulmonary disorders and lung cancer
- C. Tuberculosis and pneumonia
- D. Asthma and tuberculosis

18. The primary function of the small intestine is:

- A. Absorption of water
- B. Vitamin conversion
- C. Mineral secretion
- D. Absorption of nutrients

19. Alcohol prevents the function of antidiuretic hormone which normally prevents excessive water loss by promoting water reabsorption in the:

- A. Distal convoluted tubule
- B. Collecting duct
- C. Glomerulus
- D. Proximal convoluted tubule

20. For a sperm cell to fertilize an ovum, sexual intercourse must occur no more than \_\_\_\_\_ hours before ovulation:

- A. 12
- B. 24
- C. 48
- D. 82

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

1. List five (5) characteristics of connective tissue (5 marks)
2. Describe five (5) functions of the integumentary system (5 marks)
3. State any five (5) hormones and their functions (5 marks)
4. Describe the cellular components of blood (5 marks)
5. Explain the main functions of the immune system (5 marks)
6. Describe the process of inhalation (5 marks)
7. Describe the digestion of proteins (5 marks)
8. Explain any five (5) methods of birth control (5 marks)

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

1. Concerning blood:
  - a) Discuss hemolytic disease of the newborn (erythroblastosis fetalis) **(8 marks)**
  - b) Discuss any three (3) methods that the body uses to maintain blood pressure **(12 marks)**
  
2. Concerning the human body and health:
  - a) Discuss four (4) risk factors for diabetes **(8 marks)**
  - b) Describe some of the major and minor effects of smoking in the human body **(12 marks)**

**\*END\***