

**CHRISTIAN SERVICE UNIVERSITY COLLEGE, KUMASI, GHANA**



**FACULTY OF HEALTH AND APPLIED SCIENCES**

**DEPARTMENT OF PHYSICIAN ASSISTANTSHIP STUDIES**

**BSC. PHYSICIAN ASSISTANTSHIP STUDIES (MEDICAL)**

**END OF FIRST SEMESTER EXAMINATIONS, 2018/2019 ACADEMIC YEAR**

**LEVEL 100**

**PACS 105: HUMAN ANATOMY I**

**May, 2019**

**Time Allowed: 2:30 Hours**

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- Write your Index Number and Date and sign (your Signature) on the space provided at the top of each page of the Question Paper
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**SECTION: A**

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- **ANSWER ALL QUESTIONS**

**DETERMINE WHETHER THE OPTIONS UNDER EACH STATEMENT ARE TRUE OR FALSE**

**1 Which of the following scientist coined the term cell?**

- a. Robert Hooke
- b. Robert Brown
- c. Theodore Schwann
- d. Rudolph Virchow

**2. According to the cell theory**

- a. All organisms are composed of one or more cells
- b. The cell is the basic unit of life in all living things
- c. All cells are produced by the division of pre-existing cells
- d. Mitosis is a reduction division

**3. The following are characteristics of Eukaryotic cells except**

- a. Includes all plants, fungi, and animals
- b. Contain a nucleus and membrane bound organelles
- c. Can specialize for functions such as absorbing nutrients, transmitting nerve impulses etc.
- d. Lack a nucleus and other membrane encased organelles

**4. Which of the following is not a characteristic feature of Ribosomes**

- a. They are a site of protein synthesis
- b. They may be located on the chloroplast making it rough
- c. Consist of a large subunit and a small subunit
- d. They may be free in the cytoplasm

**5. Features of endoplasmic reticulum includes**

- a. They are a system of membrane channels and saccules
- b. They are involved in the production of energy
- c. Smooth endoplasmic reticulum are involved in protein metabolism
- d. Rough endoplasmic reticulum are involved in lipid metabolism

**6. Characteristics of mitochondria include the following except:**

- a. Involved in cellular respiration
- b. Does not contain their own DNA
- c. Inner membrane surrounds the matrix and is convoluted to form cristae
- d. Involved in the production of ATP

**7. The cytoskeleton**

- a. Maintains cell shape
- b. Assists in the movement of cell and organelles
- c. Important in the transmission of hereditary information
- d. Microfilaments are rods of glycine

**8. Concerning the structure of the cell membrane**

- a. A phospholipid bi-layer
- b. Membrane proteins may be peripheral or integral
- c. External surface lined with hydrophobic polar heads
- d. Non-polar, hydrophobic fatty acids sandwiched in between

**9. Membrane proteins**

- a. Includes enzymatic proteins which carry out metabolic reactions directly
- b. Allow passage of molecules through membrane
- c. Does not bind to messenger molecules
- d. Involved in osmosis

**10. Concerning Active Transport:**

- a. Does not require a carrier protein
- b. Requires ATP
- c. It is movement along a concentration gradient
- d. Involved in the transport of amino acids and glucose.

**11. Facilitated diffusion as a means of transport across cell membranes:**

- a. Requires energy in the form of ATP
- b. Does not require a career protein
- c. It involves movement against a concentration gradient
- d. Transport glucose and amino acids

**12. Directional terms in anatomy:**

- a. The forehead is inferior to the nose
- b. The lungs are deep to the rib cage
- c. The heart is lateral to the arm
- d. The elbow is proximal to the wrist

**13. The Dorsal body cavity:**

- a. Has two subdivisions; the cranial and the vertebral canal
- b. They are lined by membranes called pleura
- c. The vertebral canal contains the spinal cord
- d. Houses the nervous system

**14. The ventral body cavity:**

- a. Has two major subdivisions which are the thoracic and abdominopelvic
- b. Houses internal organs called viscera
- c. Separated by the diaphragm
- d. Pelvic cavity lies in the bony pelvis

**15. The mediastinum**

- a. The oesophagus is related to the mediastinum
- b. The heart and the great vessels are found in the mediastinum
- c. The trachea is related
- d. Extends from the base of the neck to the diaphragm

**16. The following are retroperitoneal organs except**

- a. Kidneys
- b. Adrenals
- c. Ureters
- d. Thymus



**17. Mitosis as a form of cell division:**

- a. Produces haploid cells
- b. Produces four daughter cells
- c. There is crossing over
- d. Occurs in somatic cells

**18. During Meiosis:**

- a. Essential in the production of gametes
- b. Used for growth and repair of organisms
- c. Produces diploid cells
- d. There is pairing of homologous chromosomes

**19. The following events during the cell cycle are true except:**

- a. Synthesis of DNA and chromosomes occurs at the S phase
- b. It is the time span from one cell division through G1-S- G2 phase
- c. G2 phase prepares cell for mitosis
- d. G1 involves formation of new organelles and rapid growth of cells

**20. Blood flow through the heart:**

- a. The left ventricle pump blood into the Aorta for systemic circulation
- b. The Superior and Inferior vena cavae empties blood into the left atrium
- c. The left atrium receives oxygenated blood from the lungs through the pulmonary veins
- d. The Atria have thicker walls than the ventricles

**21. The conduction system of the heart**

- a. The heart possesses the property of autorhythmicity
- b. The SA node is the pacemaker of the heart
- c. The purkinje fibers are found in the atrium
- d. The AV bundle divides into the right and left bundle branches

**22. Stroke Volume of the heart**

- a. The average stroke volume is 60-80mls
- b. It is determined by the venous return
- c. It is reduced in patients with hypovolaemic shock
- d. It is increased in patients with heart failure

**23. ABO Blood system:**

- a. Persons with blood Group A have antigen A
- b. Persons with AB blood type are Universal donors
- c. Persons with Blood group O have no antigens
- d. Persons with blood group B have antibody A in their blood

**24. Plasma is composed of**

- a. 40% water
- b. 20% proteins
- c. Albumin is the major plasma proteins
- d. Urea and vitamins

**25. Functions of blood**

- a. Transport of oxygen and carbon monoxide
- b. Does not regulate body temperature
- c. Involved in the regulation of pH
- d. Involved in the regulation of blood clotting

**26. Concerning blood vessels**

- a. The three kinds of blood vessels are arteries, veins and capillaries.
- b. Veins have thicker walls than arteries.
- c. Exchange of substances occur at the capillaries
- d. Arteries carry blood at relatively higher pressures

**27. The following are examples of long bones except**

- a. Ribs
- b. Femur
- c. Tarsals
- d. Phalanges

**28. Which of the following is a Sesamoid bone**

- a. Patella
- b. Ribs
- c. Sternum
- d. vertebrae

**29. Concerning the gross anatomy of the bone:**

- a. The Epiphyses is composed of compact bone with a central medullary canal
- b. The periosteum is the outer covering of the diaphysis
- c. Nutrient arteries supply bone cells with nutrients
- d. Articular cartilage covers the external surface of the Epiphyses

**30. Regarding bone formation**

- a. Endochondral ossification is formation of bone directly from fibrous connective tissue
- b. Intramembranous ossification is the formation of bone directly from hyaline cartilage model
- c. Osteoblasts are mature bone cells
- d. Osteoclast are involved in bone resorption

**30. The factors affecting bone healing are:**

- a. Blood supply
- b. Infection
- c. Malnutrition
- d. Corticosteroid

**31. The following are basic tissues except**

- a. Connective tissue
- b. Muscle tissue
- c. Nervous tissue
- d. Epithelial tissue

**32. Which of the following is not an epithelial tissue?**

- a. Squamous epithelium
- b. Columnar epithelium
- c. Tall epithelium
- d. Transitional epithelium

**33. Regarding connective tissues**

- a. They consist of few cells
- b. They have extracellular substance
- c. Fibroblast is a type of connective tissue cell
- d. Adipocytes are fat storing cells

**34. Extracellular substance in connective tissue consist of**

- a. Proteoglycans
- b. Hyaluronic acid
- c. Tissue fluid
- d. Chondroitin Sulphate

**35. Joints are classified as:**

- a. Areolar
- b. Fibrous
- c. Cartilaginous
- d. Synovial



**36. Characteristics of smooth muscle includes:**

- a. They are called voluntary muscle
- b. They are found in the walls of hollow organs such as stomach, urinary bladder and intestines
- c. They are innervated by the autonomic nervous system
- d. They are striated muscles

**37. The range of movement at a joint could be:**

- a. flexion
- b. Extension
- c. Rotation
- d. Adduction

**38. The following are muscles of the head and neck except:**

- a. Zygomaticus
- b. Sternocleidomastoid
- c. Triceps
- d. Trapezius

**39. The following muscles are found in the arm except**

- a. Biceps
- b. Triceps
- c. Pronator teres
- d. Gracilis

**40. Which of the following bones are found in the Leg:**

- a. Tarsals
- b. Fibula
- c. Phalanges
- d. Tibia

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**SECTION B**

1. Discuss the process of bone formation.