



*(Knowledge for Development)*

**KIBABII UNIVERSITY**

**UNIVERSITY EXAMINATIONS 2022/2023**

**ACADEMIC YEAR**

**FIRST YEAR FIRST SEMESTER**

**MAIN EXAMINATION**

**FOR BACHELOR OF SCIENCE IN NURSING DEGREE**

**COURSE CODE: NUR 111**

**COURSE TITLE: ANATOMY I**

**DATE: 13/12/2022**

**TIME: 9.00 – 12.00PM**

**INSTRUCTIONS TO CANDIDATES**

Answer ALL Section one (1) MULTIPLE CHOICE QUESTIONS and ALL Section two (2) SHORT ANSWER QUESTIONS and any one (1) section THREE (3) LONG ANSWER QUESTION.

TIME: 3 Hours

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**SECTION ONE- MULTIPLE CHOICE QUESTIONS- ANSWER ALL QUESTIONS (50 Marks)**

1. Which of the following is NOT an example of personal protective equipment
  - (A). Spectacles.
  - (B). Face mask.
  - (C). Gloves.
  - (D). Laboratory white coat.
  
2. When working in the anatomy laboratory, which of the following statements is TRUE
  - (A). One is allowed to dress in any type of clothe.
  - (B). Human tissues must be handled with care and respect.
  - (C). Confidentiality is unnecessary.
  - (D). Gloves are not required,
  
3. In handling human tissues
  - (A). A laboratory is not necessary.
  - (B). Consent is never sought.
  - (C). Personal protection is not required.
  - (D). Care and respect is paramount.
  
4. A person is standing erect, with the upper limbs by the sides and the face and palms of the hands directed forward. The above describes
  - (A). Anatomical plane.
  - (B). Paramedian plane.
  - (C). Anatomic position.
  - (D). Horizontal plane.
  
5. A vertical plane passing through the centre of the body and dividing it into equal right and left halves is known as
  - (A). Paramedian.
  - (B). Median sagittal.
  - (C). Coronal.
  - (D). Transverse.
  
6. A patient presents to the casualty with a mass which abuts the sternum on the left side close to the left nipple. Which of the following statements is TRUE?
  - (A). The mass is lateral to the left nipple.



- (B). The mass is situated in the coronal plane.
- (C). The mass is medial to the left nipple.
- (D). The mass is situated at the left nipple.

7. Anterior

- (A). Refers to the back of the body.
- (B). Refers to the lower part of the body.
- (C). Indicates the upper part of the body.
- (D). Indicates the front of the body.

8. A patient presented to the emergency department at Bungoma County Referral Hospital with a septic wound on the left thigh and a lump on the right foot. Which of the following statements is TRUE of the wound and the lump?

- (A). The wound and the lump are contralateral.
- (B). The wound and the lump are ipsilateral.
- (C). The wound is deep while the lump is superficial.
- (D). The wound is medial while the lump is lateral.

9. During surgery for umbilical hernia, a patient lies on the back on the operating table. Which position is this?

- (A). Supine.
- (B). Prone.
- (C). Dorsal.
- (D). Ventral.

10. The following statements are true of a joint EXCEPT

- (A). It is a site where two or more bones come together.
- (B). Some have no movements such as sutures of the skull.
- (C). Some are freely movable such as shoulder joint.
- (D). They are found only in the upper and lower limbs.

11. Regarding flexion

- (A). It is a movement only possible at the elbow joint.
- (B). It is a movement that takes place in a sagittal plane.
- (C). It involves straightening the joint and usually takes place in a posterior direction.
- (D). It is always an anterior movement.

12. The following movements are possible at the hip joint EXCEPT

- (A). Flexion.
- (B). Extension.
- (C). Supination.
- (D). Abduction.

13. Inversion of the foot

- (A). Is a movement that leads to the sole facing in a lateral direction.
- (B). Is the same as dorsiflexion.
- (C). Is a movement that leads to the sole facing in a medial direction.
- (D). Is the same as plantar flexion.

14. As regards to skin

- (A). It consists of the epidermis only.
- (B). On the palms of the hands and the soles of the feet, the epidermis is extremely thick.
- (C). The epidermis is a columnar epithelium.
- (D). It consists of the dermis only.

15. The following are skin appendages EXCEPT

- (A). Arrector pili muscle.
- (B). Nails.
- (C). Hair follicles.
- (D). Sweat glands.

16. The following statements concerning fasciae are true EXCEPT

- (A). It is divided into superficial and deep parts.
- (B). It lies between the skin and the underlying muscles and bones.
- (C). Superficial fascia is a mixture of loose areolar and adipose tissue.
- (D). In the eyelids, superficial fascia has abundant adipose tissue.

17. Which of the following structures has superficial fascia with numerous bundles of collagen fibres?

- (A). Eyelids.
- (B). Penis.
- (C). Scrotum.
- (D). Soles of feet.

18. Which of the following statements concerning skeletal muscles is CORRECT?

- (A). They are involuntary.
- (B). Usually have only one attachment.
- (C). They are voluntary.
- (D). The origin is the attachment that moves the most.

19. Smooth muscle

- (A). Is voluntary in action.
- (B). Consists of long spindle-shaped cells.
- (C). Is absent in the stomach.
- (D). Has no role in micturition.

20. The following are true of fibrous joints EXCEPT

- (A). Symphysis pubis is an example.
- (B). Surfaces of bones are joined by fibrous tissue.
- (C). Very little movement is possible.
- (D). Sutures of the vault of skull is an example.

21. Regarding a synovial joint which of the following statements is NOT true?

- (A). The articular surfaces are covered by hyaline cartilage.
- (B). A little degree of movement is permitted in this joint.
- (C). The cavity of the joint is lined by synovial membrane.
- (D). The hip joint is an example.

22. Ligaments

- (A). Are never associated with joints.
- (B). Are lubricating devices consisting of closed fibrous sac.
- (C). Are prone to excessive stretching and even tearing and rupture.
- (D). Have no role in stability of synovial joints.

23. Regarding bursae, which of the following statements is FALSE?

- (A). It is a lubricating device consisting of a closed fibrous sac.
- (B). Its walls are separated by a film of viscous fluid.
- (C). They are found wherever tendons rub against bones.
- (D). They are rarely found close to joints.



24. Synovial sheath

- (A). Is a tubular bursa that surrounds a tendon.
- (B). It is a band of connective tissue uniting two structures.
- (C). It is never affected by infection.
- (D). It surrounds muscles.

25. Which of the following statements about arteries is NOT TRUE?

- (A). They transport blood from the heart.
- (B). Arterioles are the medium-sized arteries.
- (C). Anastomosis is the joining of its branches.
- (D). Anatomic end arteries do not connect with adjacent arteries.

26. As relates to veins, which of the following is INCORRECT

- (A). They transport blood back to the heart.
- (B). Many of them possess valves.
- (C). The smallest are venules.
- (D). All have valves.

27. Which of the following is NOT a lymphatic tissue?

- (A). Thymus.
- (B). Lymph nodes.
- (C). Liver.
- (D). Spleen.

28. Lymphatic vessels are found in the following tissues and organs EXCEPT

- (A). Dermis of the skin.
- (B). Epidermis of skin.
- (C). External ear.
- (D). Kidney.

29. The statements below about the nervous system are true EXCEPT

- (A). Somatic nervous system controls involuntary activities.
- (B). Somatic nervous system controls voluntary activities.
- (C). Nervous system together with the endocrine system controls and integrates the activities of the different parts of the body.
- (D). Central nervous system consists of the brain and spinal cord.

30. Sesamoid bones are found embedded in

- (A). Tendons.
- (B). Joints.
- (C). Muscles.
- (D). Ligaments.

31. Which category of bone protects the brain?

- (A). Long bones.
- (B). Short bones.
- (C). Sesamoid bones.
- (D). Flat bones.

32. The following statements are true of hyaline cartilage EXCEPT

- (A). It plays an important part in the growth in length of long bones during childhood.
- (B). It covers the articular surfaces of nearly all synovial joints.
- (C). It has a good repair potential after injury.
- (D). It has a great resistance to wear and tear.

33. Concerning a light microscope, which of the following statements is FALSE?

- (A). Large areas of a specimen can be observed.
- (B). Image observed is usually in three-dimension.
- (C). Wide range of staining methods usually available.
- (D). It permits identification of cell and tissue features.

34. Haematoxylin and eosin

- (A). Is the least used method.
- (B). Haematoxylin is an acidic dye.
- (C). Most cytoplasmic proteins are acidic and hence cytoplasm usually stains blue.
- (D). Eosin is an acidic dye which stains basic structures red or pink.

35. Which of the following is NOT a function of plasma membrane?

- (A). Transfer of nutrients and metabolites.
- (B). Attachment of the cell to adjacent cells and extracellular matrix.
- (C). Energy production mainly in the form of ATP.
- (D). Communication with the external environment.

36. Regarding mitosis which one of the following is FALSE?

- (A). A diploid cell produces four haploid germ cells.
- (B). Its products are genetically identical.
- (C). It involves division of somatic cells.
- (D). It is necessary in replacing dead or damaged cells.

37. Plasma is

- (A). Composed of 80 per cent proteins.
- (B). Composed of 10 per cent inorganic salts.
- (C). Composed of 15 per cent lipids.
- (D). Composed of 90 per cent water.

38. Which of the following statements concerning red blood cells is INCORRECT?

- (A). Contain large amounts of haemoglobin.
- (B). Involved in the transport of oxygen and carbon dioxide.
- (C). Constitute an important part of the immune system of the body.
- (D). Function exclusively within the vascular system.

39. Which of the following is NOT a test used to investigate blood in clinical practice

- (A). Full haemogram.
- (B). Histopathology.
- (C). Peripheral blood film.
- (D). Renal function test.

40. Concerning connective tissue, which of the following is FALSE?

- (A). Consists of cells only.
- (B). It is diverse and abundant.
- (C). It has a function in support and protection.
- (D). It includes cartilage and bone.

41. The following statements are true of epithelial tissues EXCEPT

- (A). They have close cell contact in its structure.
- (B). They are highly vascular.
- (C). They are highly mitotic.
- (D). Their apical surfaces may be modified for function.



42. Stratified epithelium

- (A). Have a single layer of cells.
- (B). Have several layers of cells.
- (C). Always consists of flattened cells.
- (D). Is the same as pseudostratified epithelium.

43. Transitional epithelium is found in

- (A). The fallopian tubes.
- (B). The stomach.
- (C). The bronchi.
- (D). The ureters.

44. Concerning skeletal muscle, which of the following is NOT TRUE?

- (A). It is voluntary.
- (B). It is striated.
- (C). It is found in the walls of hollow organs.
- (D). Responsible for movement of the limbs.

45. Which of the following statements is true regarding the resultant imagery in standard CT (computerized tomography) films?

- (A). Air appears white.
- (B). Muscle appears black.
- (C). Bone appears white.
- (D). Fluids appear black.

46. The following contain smooth muscle fibers EXCEPT

- (A). Myocardium.
- (B). Urinary bladder.
- (C). Muscular artery.
- (D). Uterus.

47. The following are true of neurones EXCEPT

- (A). Found in the spinal cord.
- (B). Involved in conduction of impulses.
- (C). Coordinate and regulate body functions.
- (D). Actively dividing.

48. The endoderm will give rise to the

- (A). Spleen.
- (B). Stomach.
- (C). Adrenal medulla.
- (D). Pitutary gland.

49. The cloacal membrane marks the site of the future

- (A). Anus.
- (B). Umbilical cord.
- (C). Heart.
- (D). Mouth.

50. Each of the following is characteristic of the monozygotic twins EXCEPT

- (A). They have a single common placenta.
- (B). They are most common.
- (C). They are genetically identical.
- (D). They usually have one amnion.

**SECTION 2: SHORT ANSWER QUESTIONS. ANSWER ALL QUESTIONS (30 Marks)**

1. Enumerate five (5) differences in structure between male and female pelvis in human ( 5 marks )
2. State five (5) imaging modalities used in investigating human anatomy in clinical practice. ( 5 marks )
3. Define anatomic position and list three (3) anatomic planes. ( 5 marks )
4. Define the following terms: ( 5 marks )
  - (a). Ipsilateral.
  - (b). Contralateral.
  - (c). Supine.
  - (d). Prone.
  - (e). Joint.
5. Name five (5) organs or organ systems where lymph vessels are absent. (5 marks)
6. State five (5) differences between sinusoids and capillaries. (5 marks)

**SECTION 3: LONG ANSWER QUESTIONS- ANSWER ANY ONE QUESTION (20 Marks)**

1. Describe the three (3) types of muscles in relation to structure, location in the body and their functions. ( 20 marks )
2. Describe synovial joints in terms of definition, classification of the joints giving an example in each, what limits their degree of movement and name three (3) factors responsible for stabilizing a joint. ( 20 marks )