

15



*(Knowledge for Development)*

**KIBABII UNIVERSITY**

**UNIVERSITY EXAMINATIONS 2022/2023  
ACADEMIC YEAR**

**FIRST YEAR THIRD TRIMESTER**

**MAIN EXAMINATION**

**FOR BACHELOR OF SCIENCE IN NURSING  
DEGREE**

**COURSE CODE: NUR 121**

**COURSE TITLE: ANATOMY II**

**DATE: 16/08/2023**

**TIME: 2PM – 5PM**

**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 1: MULTIPLE CHOICE QUESTIONS

1. Anal canal

- (A). Is about 20 cm long.
- (B). Is related posteriorly to the bladder.
- (C). Ischiorectal fossa is its anterior relation.
- (D). It is supplied by the superior rectal artery.

2. Concerning the penis, the following are true EXCEPT

- (A). Its root is made of the bulb of the penis and left and right crura.
- (B). Its root is fixed while the body hang free.
- (C). Its body is composed of corpora cavernosa only.
- (D). The nerve supply is from the pudendal nerve and the pelvic plexuses.

3. Regarding the scrotum, which of the following is TRUE?

- (A). It contains the testes only in its cavity.
- (B). It contains the testes, the epididymides and the lower ends of the spermatic cords in its cavity.
- (C). It has Camper fascia in its superficial fascia.
- (D). Its wall consists of skin and superficial fascia only.

4. What is the approximate length of female urethra?

- (A). 4 cm.
- (B). 8 cm.
- (C). 10 cm.
- (D). 25 cm.

5. The vagina

- (A). Is lined with stratified squamous epithelium.
- (B). Is lined with pseudostratified epithelium.
- (C). Has numerous mucous glands.
- (D). The cervix of the uterus pierces its posterior wall.

6. The following statements are true concerning the testis EXCEPT

- (A). It lies within the scrotum.
- (B). Torsion of the testis is common in the elderly.
- (C). Testicular artery is a branch of the abdominal aorta.
- (D). The right testicular vein drains into the inferior vena cava.

7. A physician delivers an intramuscular injection into the lateral aspect of the shoulder. Which of the following sequences describes the correct order of tissue layers pierced by the needle ( Passing from superficial to deep)?

- (A). Epidermis, dermis, superficial fascia, epimysium, deep fascia.
- (B). Dermis, epidermis, superficial fascia, deep fascia, epimysium.

- (C). Dermis, epidermis, superficial fascia, epimysium, deep fascia.
- (D). Epidermis, dermis, superficial fascia, deep fascia, epimysium.

8. The urinary bladder is lined by

- (A). Pseudostratified columnar ciliated epithelium.
- (B). Simple cuboidal epithelium.
- (C). Simple columnar epithelium.
- (D). Transitional epithelium.

9. The first sign of respiratory system formation is

- (A). Primitive foregut.
- (B). Tracheoesophageal septum.
- (C). Respiratory diverticulum.
- (D). Bronchial buds.

10. With regard to the brachial plexus

- (A). There are 8 divisions of the trunks.
- (B). The radial nerve is derived from C7, 8 and T1.
- (C). The nerve to subclavius is the only branch from the trunks.
- (D). The axillary nerve is derived from the posterior cord.

11. Serratus anterior

- (A). Inserts in the lateral border and superior angle of scapula.
- (B). Is unipennate.
- (C). Receives its nerve supply from the long thoracic nerve.
- (D). Arises from the upper 6 ribs.

12. The rotator cuff is formed by all of the following EXCEPT

- (A). Subscapularis muscle.
- (B). Teres major.
- (C). Infraspinatus muscle.
- (D). Supraspinatus muscle.

13. The carpal tunnel contains all the following EXCEPT

- (A). Palmaris longus tendon.
- (B). Tendon of flexor digitorum profundus.
- (C). Median nerve.
- (D). Tendon of flexor digitorum superficialis.

14. Lymphatic drainage of the breast

- (A). Is entirely to the axillary nodes.
- (B). Follows superior epigastric vessels.
- (C). Follows arterial supply.
- (D). Is mainly through internal mammary nodes.

15. The floor of the femoral triangle is formed by the following muscles EXCEPT

- (A). Pectineus.
- (B). Adductor brevis.
- (C). Adductor longus.
- (D). Psoas.

16. Damage to the common peroneal nerve causes

- (A). Loss of inversion of foot.
- (B). Loss of eversion of foot.
- (C). A high skipping gait.
- (D). Foot drop.

17. Flexion of the knee joint is effected by the following muscles EXCEPT

- (A). Semimembranosus.
- (B). Rectus femoris.
- (C). Sartorius.
- (D). Semitendinosus.

18. Branches of the popliteal artery include the following EXCEPT

- (A). Muscular branches.
- (B). Articular arteries to the knee.
- (C). Anterior tibial artery.
- (D). Femoral artery.

19. Regarding sartorius, which statement is INCORRECT?

- (A). It is the 'tailor's muscle'.
- (B). It forms antero-medial wall of the adductor canal.
- (C). It is innervated by the tibial nerve.
- (D). The medial margin forms lateral border of femoral triangle.

20. The superior oblique muscle of the eye is innervated by the

- (A). Trochlear nerve.
- (B). Trigeminal nerve.
- (C). Abducent nerve.
- (D). Oculomotor nerve.

21. The vagus nerve leaves the skull through the

- (A). Occipital foramen.
- (B). Foramen rotundum.
- (C). Jugular foramen.
- (D). Foramen spinosum.

22. The foramen magnum is located in the

- (A). Sphenoid bone.
- (B). Occipital bone.
- (C). Parietal bone.
- (D). Frontal bone.

23. The cerebrum
- (A). Forms the midbrain.
  - (B). Is situated in the forebrain.
  - (C). It encloses the third ventricle.
  - (D). It encloses the cerebral aqueduct.
24. The following forms the hindbrain EXCEPT
- (A). Pons.
  - (B). Medulla oblongata.
  - (C). Diencephalon.
  - (D). Cerebellum.
25. Regarding right main bronchus, the following are true EXCEPT
- (A). Wider than the left main bronchus.
  - (B). More vertical than the left bronchus.
  - (C). Foreign bodies enter it easily.
  - (D). Longer than the left main bronchus.
26. Which one of the following bones is classified as "long bone"?
- (A). Thoracic vertebra.
  - (B). Sternum.
  - (C). Clavicle.
  - (D). Sacrum.
27. The dermatome present over the nipple is
- (A). T7.
  - (B). T4.
  - (C). T9.
  - (D). T10.
28. The diaphragm
- (A). Is the most important muscle used in inspiration.
  - (B). Has an oesophageal opening at the level of T8.
  - (C). Has caval opening at T12.
  - (D). Has a left dome which lies higher than the right dome
29. Concerning the vagus nerve
- (A). The right recurrent laryngeal branch hooks around the right subclavian artery.
  - (B). Passes in front of the lung root.
  - (C). The left recurrent laryngeal nerve hooks around the left subclavian artery.
  - (D). Passes through the caval opening in the diaphragm.
30. During an insertion of a chest tube in the fifth intercostal space, the following layers are pierced EXCEPT
- (A). Skin.
  - (B). Camper's fascia.

- (C). External oblique muscle.
- (D). Parietal pleura.

31. Which of the following is considered a TRUE RIB?

- (A). 12<sup>th</sup> rib.
- (B). 2<sup>nd</sup> rib.
- (C). 8<sup>th</sup> rib.
- (D). 10<sup>th</sup> rib.

32. The left vagus nerve passes through which opening in the diaphragm.

- (A). Aortic.
- (B). Caval.
- (C). Esophageal.
- (D). None of the above.

33. The anterior abdominal wall is made up of

- (A). Skin, superficial fascia, deep fascia and parietal peritoneum.
- (B). Skin, superficial fascia, deep fascia and muscles.
- (C). Skin, superficial fascia, deep fascia, muscles and visceral peritoneum.
- (D). Skin, superficial fascia, deep fascia, muscles, extraperitoneal fascia and parietal peritoneum.

34. Regarding anterior abdominal wall muscles, the following statements are true EXCEPT

- (A). It consists of three broad thin sheets anteromedially and rectus abdominis muscles anteriorly towards the midline..
- (B). They flex and rotate the trunk.
- (C). They have no function in inspiration.
- (D). Supports and protects abdominal viscera.

35. Which of the following organs is located in the right lower quadrant of the abdomen?

- (A). Liver.
- (B). Spleen.
- (C). Cecum.
- (D). Descending colon.

36. What is the dermatome over the umbilicus?

- (A). T7.
- (B). T10.
- (C). L1.
- (D). T4.

37. Which of the following organs is retroperitoneal?

- (A). Ureter.
- (B). Stomach.
- (C). Liver.
- (D). Spleen.

38. Taenia coli

- (A). Consists of the inner circular layer of smooth muscles.
- (B). Is made up of outer longitudinal layer of smooth muscle in the colon.
- (C). Is present in the ileum.
- (D). Is absent in the ascending colon.

39. Concerning the stomach, which of the following statements is FALSE?

- (A). It is the dilated part of the alimentary canal between the esophagus and the small intestine.
- (B). It occupies the left upper quadrant, epigastric and umbilical regions.
- (C). It is a retroperitoneal organ.
- (D). It has two surfaces, anterior and posterior.

40. Regarding jejunum and ileum

- (A). It measures about two meters in an adult.
- (B). Its proximal two fifths make up the ileum.
- (C). They are fixed with no mesentery.
- (D). The jejunum is wider bore, thicker walled and redder than the ileum.

41. The following statements concerning the inferior mesenteric artery are CORRECT EXCEPT?

- (A). The mesenteric artery's colic branch supplies the descending colon.
- (B). The mesenteric artery gives off the inferior pancreaticoduodenal artery.
- (C). The mesenteric artery supplies the sigmoid colon.
- (D). The mesenteric artery's branches contribute to the marginal artery.

42. Concerning the bony pelvis, which of the following is NOT TRUE?

- (A). It transmits the weight of the body from the vertebral column to the femurs.
- (B). It contains, supports, and protects the pelvic viscera.
- (C). It provides attachment for trunk and lower limb muscles.
- (D). It is composed of two hip bones only which form the lateral and anterior walls.

43. A man was hit by a motor bike and sustained a fracture of the pelvis. He presented to the emergency department with pain and blood-stained urine. Which structure was most likely injured in the accident?

- (A). Membranous urethra.
- (B). Urinary bladder.
- (C). Rectum.
- (D). Ureter.

44. Which imaging modality is most suitable in confirming pelvic fractures?

- (A). Ultrasound.
- (B). Mammography.
- (C). X-ray.
- (D). PET scan.

45. Sigmoid colon

- (A). Is retroperitoneal and fixed.
- (B). Receives its blood supply from superior mesenteric artery.
- (C). Its veins drain into the superior mesenteric vein.
- (D). It is mobile and hangs into the pelvic cavity in the form of a loop.

46. The following statements are true of the prostate EXCEPT

- (A). It lies between the neck of the bladder above and the urogenital diaphragm below.
- (B). It is commonly enlarged in males below 20 years.
- (C). It is incompletely divided into five lobes.
- (D). It produces alkaline secretion which helps neutralize the acidity in the vagina.

47. Regarding the uterus

- (A). It is divided into the fundus and body.
- (B). The cervix pierces the posterior wall of the vagina.
- (C). Its body is related anteriorly to the uterovesical pouch and the superior surface of the bladder.
- (D). In most women it is retroverted.

48. The vertebral column

- (A). Is composed of eight cervical vertebrae.
- (B). Has spinal cord lying within its cavity.
- (C). Is a rigid and fixed structure with no movement possible.
- (D). Has only cervical and thoracic curvatures.

49. The spinal cord in the adult ends inferiorly at the level of the

- (A). L1 vertebra.
- (B). L5 vertebra.
- (C). L3 vertebra.
- (D). T12 vertebra.

50. The lateral bone of the forearm is

- (A). Ulna.
- (B). Humerus.
- (C). Lunate.
- (D). Radius.

## **SECTION 2: SHORT ANSWER QUESTIONS**

1. Briefly describe the walls (posterior, anterior, anterolateral sides) of the thoracic cage and give 2 functions of the thorax. (5 marks)
2. Name the 3 main openings in the diaphragm listing the structures each transmits. (5 marks)
3. Write short notes on inferior mediastinum including its subdivisions and structures found in it. (5 marks)
4. State 3 functions of abdominal wall and 3 muscles of the anterior abdominal wall. (5 marks)

5. Write short notes on rotator cuff: what forms it; its role and clinical significance. (5 marks)
6. Name the 5 layers of the scalp and give its clinical significance. (5 marks)

### **SECTION 3: LONG ANSWER QUESTIONS**

1. Describe the spermatic cord in terms of definition, its contents, its coverings (the spermatic fasciae), and its relationship to the inguinal canal and name two diseases that can affect the inguinal canal. (20 marks)
  
2. Describe the adductor canal under the following subtitles:
  - (i). Definition.
  - (ii). Location.
  - (iii). Borders (walls): anteromedial, posterior, lateral.
  - (iv). Contents.
  - (v). Clinical importance. (20 marks) distribution marks according to the subtitles