



*(Knowledge for Development)*

**KIBABII UNIVERSITY**

**UNIVERSITY EXAMINATIONS 2021/2022**

**ACADEMIC YEAR**

**FIRST YEAR SECOND TRIMESTER**

**SUPPLEMENTARY EXAMINATION**

**FOR BACHELOR OF SCIENCE IN NURSING DEGREE**

**COURSE CODE: NUR 121**

**COURSE TITLE: HUMAN ANATOMY II**

**DATE: 21/09/2022**

**TIME: 2.00pm-5.00pm**

**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

This paper consists of 10 printed pages. Please Turn Over 

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**PART ONE: MULTIPLE CHOICE QUESTIONS (ANSWER ALL)**

1. The following statements concerning the diaphragm are correct EXCEPT which?

- (A). The right crus provides a muscular sling around the esophagus and possibly prevents regurgitation of stomach contents into the esophagus.
  - (B). On contraction, the diaphragm raises the intra-abdominal pressure and assists in the return of the venous blood to the right atrium of the heart.
  - (C). The level of the diaphragm is higher in the recumbent position than in the standing position.
  - (D). The esophagus passes through the diaphragm at the level of the eighth thoracic vertebra.
2. The mammary gland in the young adult female overlies
- (A). The 1<sup>st</sup> to the 5<sup>th</sup> ribs.
  - (B). The 2<sup>nd</sup> to the 6<sup>th</sup> ribs.
  - (C). The 1<sup>st</sup> and 2<sup>nd</sup> ribs.
  - (D). The 2<sup>nd</sup> and 3<sup>rd</sup> ribs.
3. The thoracic duct passes through which opening in the diaphragm
- (A). Aortic.
  - (B). Esophageal.
  - (C). Caval.
  - (D). Hiatal.
4. Which one of the following bones is classified as "long bone"?
- (A). Rib.
  - (B). Clavicle.
  - (C). Sternum.
  - (D). Manubrium.
5. Regarding rib fractures, the weakest part of a rib is
- (A). The head.
  - (B). The tubercle.
  - (C). Anterior to the angle.
  - (D). The anterior part of the shaft.

6. The following statements concerning the right lung are true EXCEPT which?

- (A). It possesses a horizontal and an oblique fissure.
- (B). Its covering of visceral pleura is sensitive to pain and temperature.
- (C). The lymph from the substance of the lung reaches the hilum by the superficial and deep lymphatic plexuses.
- (D). The pulmonary ligament permits the vessels and nerves of the lung root to move during the movements of respiration.

7. All of the following statements concerning the esophagus are correct EXCEPT

- (A). It receives an arterial blood supply from both the descending thoracic aorta and the left gastric artery.
- (B). It is constricted by the presence of the left principal bronchus.
- (C). It crosses from right to left posterior to the descending aorta.
- (D). It pierces the diaphragm, with the left vagus on its anterior surface and the right vagus on its posterior surface.

8. Regarding the mechanics of inspiration, which of the following statements is NOT TRUE?

- (A). The diaphragm is the most important muscle of inspiration.
- (B). The suprapleural membrane can be raised.
- (C). The sternum moves anteriorly.
- (D). The ribs are raised superiorly.

9. Which of the following statements concerning the walls of the inguinal canal is INCORRECT?

- (A). The inguinal ligament is made tense by flexing the hip joint.
- (B). The contracting internal oblique reinforces the anterior wall of the canal in front of the weak deep inguinal ring.
- (C). The strong conjoint tendon reinforces the posterior wall of the canal behind the weak superficial inguinal ring.
- (D). Contracting of the arching fibers of the internal oblique and transversus abdominis muscles lowers the roof of the canal so that the canal is practically obliterated.

10. The following structures are present in the inguinal canal in the male EXCEPT
- (A). Internal spermatic fascia.
  - (B). Genital branch of the genitofemoral nerve.
  - (C). Testicular vessels.
  - (D). Deep circumflex iliac artery.
11. The gallbladder is located in which region on the anterior abdominal wall
- (A). Right upper quadrant.
  - (B). Left lower quadrant.
  - (C). Right lower quadrant.
  - (D). Left upper quadrant.
12. Round ligament of the uterus is most closely associated with
- (A). Internal oblique.
  - (B). Fascia transversalis.
  - (C). Gubernaculum.
  - (D). External oblique.
13. Which group of lymph nodes drains the skin of anterior abdominal wall below the level of the umbilicus?
- (A). Anterior axillary lymph nodes.
  - (B). Para-aortic lymph nodes.
  - (C). Superficial inguinal lymph nodes.
  - (D). External iliac nodes.
14. All the following are mesodermal derivatives EXCEPT
- (A). Bones.
  - (B). Kidneys.
  - (C). Skeletal muscles.
  - (D). Enamel of teeth.
15. Pseudostratified columnar epithelium with stereocilia is found in
- (A). Epididymis.
  - (B). Renal proximal convoluted tubule.
  - (C). Trachea.
  - (D). Bronchioles.
16. Which of the following important structures is NOT contained at the hilum of the right kidney?
- (A). The renal pelvis.
  - (B). Tributaries of the renal vein.

- (C). Sympathetic nerve fibers.
- (D). Part of the right suprarenal gland.

17. Which of the following statements concerning the inferior mesenteric artery is NOT true?

- (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.

18. Which of the following structures is intraperitoneal?

- (A). Spleen.
- (B). Pancreas.
- (C). Ascending colon.
- (D). Descending colon.

19. The following statements concerning structures that leave the pelvis are correct EXCEPT?

- (A). The sciatic nerve leaves the pelvis through the greater sciatic foramen.
- (B). The piriformis muscle leaves the pelvis through the greater sciatic foramen.
- (C). The external iliac artery passes beneath the inguinal ligament to become the femoral artery.
- (D). The obturator nerve leaves the pelvis through the lesser sciatic foramen.

20. Which of the following statements regarding the nerves of the pelvic cavity is NOT true?

- (A). The inferior hypogastric plexus contains both sympathetic and parasympathetic nerves.
- (B). The sacral plexus lies behind the rectum.
- (C). The pelvic part of the sympathetic trunk possesses both white and gray rami communicantes.
- (D). The superior hypogastric plexus is formed from the aortic sympathetic plexus and branches of the lumbar sympathetic ganglia.

21. Which statement concerning the segmental origin of the nerves is INCORRECT?
- (A). The sciatic nerve is derived from the segments L4 and L5 and S1, S2 and S3.
  - (B). The pudendal nerve is derived from the segments L3, L4, and L5.
  - (C). The pelvic splanchnic nerve is derived from the segments S2, S3, and S4.
  - (D). The obturator nerve is derived from the segments L2, L3, and L4.
22. Which statement regarding the motor nerve supply of the muscles of the pelvic walls is FALSE?
- (A). The obturator nerve supplies the piriformis muscle.
  - (B). The sacral nerves or plexus supply the obturator internus muscle.
  - (C). The sacral nerves, or plexus, supply the iliococcygeus muscle.
  - (D). The sacral nerves, or plexus, supply the coccygeus muscle.
23. The following contains smooth muscle fibres EXCEPT
- (A). Uterus.
  - (B). Myocardium.
  - (C). Urinary bladder.
  - (D). Intestine.
24. The following statements concerning the pelvic part of the ureter are correct EXCEPT
- (A). It enters the pelvis in front of the bifurcation of the common iliac artery.
  - (B). It has a close relationship to the ischial spine before it turns medially toward the bladder.
  - (C). The ureter enters the bladder by passing directly through its walls, there being no valvular mechanism at its entrance.
  - (D). The blood supply of the distal part of the ureter is from the superior vesical artery.
25. Which of the following statements regarding the nerve supply to the urinary bladder is NOT true?
- (A). The sympathetic postganglionic fibers originate in the first and second lumbar ganglia.
  - (B). The parasympathetic postganglionic fibers originate in the inferior hypogastric plexuses.
  - (C). The afferent sensory fibers arising in the bladder wall reach the spinal cord via the pelvic splanchnic nerves and also travel with the sympathetic nerves.
  - (D). The parasympathetic postganglionic fibers are responsible for closing the vesical sphincter during ejaculation.
26. Regarding the vagina, which of the following statements is INCORRECT?
- (A). The area of the vaginal lumen around the cervix is divided into four fornices.
  - (B). The upper part of the vagina is supported by the levator ani muscles and the transverse cervical ligaments.
  - (C). The perineal body lies posterior to and supports the lower part of the vagina.
  - (D). The upper part of the vagina is not covered with peritoneum.
27. Which of the following statements concerning the visceral layer of pelvic fascia in the female is NOT correct?
- (A). In the region of the cervix of the uterus, it is called the parametrium.

(B). It is considered to form the pubocervical, transverse cervical, and sacrocervical ligaments of the uterus.

(C). It covers the obturator internus muscle.

(D). It does not become continuous above with the fascia transversalis.

28. Concerning the lymphatic drainage of pelvic structures, which of the statements is FALSE?

(A). Lymph from the cervix of the uterus drains into the internal and external iliac lymph nodes.

(B). Lymph from the prostate drains into the external iliac lymph nodes.

(C). Lymph from the posterior fornix of the vagina drains into the internal and external iliac lymph nodes.

(D). Lymph from the fundus of the uterus drains into the para-aortic lymph nodes at the level of the first lumbar vertebra..

29. Simple squamous epithelium lines

(A). Alveoli of the lungs.

(B). Peritoneal cavity.

(C). Pleural cavity

(D). All of the above.

30. The following statements concerning the ischiorectal fossa are correct EXCEPT

(A). The roof is formed by the urogenital diaphragm.

(B). The pudendal nerve lies in its lateral wall.

(C). The floor is formed by the superficial fascia and skin.

(D). The lateral wall is formed by the obturator internus muscle and its fascia.

31. Which of the following statements regarding the penis is NOT correct?

(A). Its root is formed in the midline by the bulb of the penis, which continues anteriorly as the corpus spongiosum.

(B). Its roots laterally are formed by the crura, which continue anteriorly as the corpus cavernosa.

(C). The glans penis is a distal expansion of the fused corpora cavernosa.

(D). The penile urethra lies within the corpus spongiosum.

32. Which of the following structures in the male CANNOT be palpated on rectal examination?

(A). Bulb of the penis.

(B). Ureter.

(C). Urogenital diaphragm.

(D). The anterior surface of the sacrum.

33. Which of the following statements concerning the anal canal is FALSE?

(A). It is about 3.8 cm long.

(B). It is related laterally to the external anal sphincter.

(C). It is the site of an important portal-systemic anastomosis.

(D). It pierces the urogenital diaphragm.

34. Which of the following statements about the subcutaneous part of the external anal sphincter is INCORRECT?

- (A). It is innervated by the middle rectal nerve.
- (B). It encircles the anal canal.
- (C). It is not attached to the anococcygeal body.
- (D). It is composed of striated muscle fibers.

35. The following structures receive innervation from branches of the pudendal nerve EXCEPT

- (A). Labia minora.
- (B). The posterior fornix of the vagina.
- (C). Urethral sphincter.
- (D). Skin of the penis or clitoris.

36. Which of the following muscles does NOT abduct the hand at the wrist joint?

- (A). Flexor carpi radialis.
- (B). Abductor pollicis longus.
- (C). Extensor digiti minimi.
- (D). Extensor pollicis longus.

37. The following bones form the proximal row of carpal bones EXCEPT

- (A). Lunate.
- (B). Pisiform.
- (C). Scaphoid.
- (D). Trapezium.

38. The axillary nerve originates from which part of the brachial plexus?

- (A). Middle trunk.
- (B). Lateral cord.
- (C). Lower trunk.
- (D). Posterior cord.

39. The lymph from the upper lateral quadrant of the breast drains mainly into the

- (A). Lateral axillary nodes.
- (B). Internal thoracic nodes.
- (C). Anterior axillary nodes.
- (D). Posterior axillary nodes.

40. The brachial artery

- (A). Lies lateral to the basilic vein.
- (B). Lies anterior to the cephalic vein.
- (C). It is crossed posteriorly by the median nerve.
- (D). It runs parallel but deep to the profunda artery.



41. Which of the following muscles dorsiflexes the foot at the ankle joint?
- (A). Peroneus longus.
  - (B). Tibialis anterior.
  - (C). Extensor digitorum brevis.
  - (D). Tibialis posterior.
42. The peroneal artery is a branch of the
- (A). Anterior tibial artery.
  - (B). Popliteal artery.
  - (C). Arcuate artery.
  - (D). Posterior tibial artery.
43. In the adult, the chief arterial supply to the head of the femur is from the
- (A). Superior circumflex iliac artery.
  - (B). Obturator artery.
  - (C). Branches from the medial and lateral circumflex femoral arteries.
  - (D). Deep external pudendal artery.
44. The inferior oblique muscle of the eye is innervated by the
- (A). Oculomotor nerve.
  - (B). Abducent nerve.
  - (C). Trigeminal nerve.
  - (D). Facial nerve.
45. The mandibular division of the trigeminal nerve leaves the skull through the
- (A). Superior orbital fissure.
  - (B). Foramen ovale.
  - (C). Foramen rotundum.
  - (D). Foramen magnum.
46. The facial nerve canal is located in the
- (A). Greater wing of the sphenoid bone.
  - (B). Occipital bone.
  - (C). Mastoid process.
  - (D). Temporal bone.
47. The hypoglossus muscle
- (A). Changes the shape of the tongue.
  - (B). Elevates the tongue.
  - (C). Depresses the tongue.
  - (D). Protrudes the tongue.
48. The characteristic feature of the second cervical vertebra is its
- (A). Odontoid process.
  - (B). Absent body.

- (C). Heart-shaped body.
- (D). Massive body.

49. The cauda equina consists of

- (A). A bundle of posterior roots of lumbar, sacral, and coccygeal spinal nerves.
- (B). A bundle of anterior and posterior roots of lumbar, sacral, and coccygeal spinal nerves and the filum terminale.
- (C). The filum terminale.
- (D). A bundle of lumbar, sacral, and coccygeal spinal nerves and the filum terminale.

50. The herniation of the intervertebral disc between the fifth and sixth cervical vertebrae will compress the

- (A). Fourth cervical nerve root.
- (B). Fifth cervical nerve root.
- (C). Sixth cervical nerve root.
- (D). Seventh and eighth cervical nerve roots.

#### **PART TWO SHORT ANSWER QUESTIONS (SAQ) (ANSWER ALL QUESTIONS)**

1. Name three (3) categories of ribs giving one example of each category. (5 marks)
2. List five (5) functions of the placenta. (5 marks)
3. Name four (4) functional layers in the wall of the ascending colon giving one (1) difference with the rectum histologically. (5 marks )
4. Enumerate the three (3) coverings of the spermatic cord and mention where it is derived during its formation. ( 5 marks )
5. Name the structures pierced through the chest wall during insertion of a chest tube at the fifth intercostal space and midclavicular line. (5 marks )
6. In regard to the brachial plexus, name two (2) nerves originating from the roots and three (3) nerves originating from the posterior cord giving their root values. ( 5 marks)

#### **PART THREE LONG ANSWER QUESTIONS (SAQ) (ANSWER ONLY ONE)**

1. Describe the position, blood supply, lymphatic drainage, innervation and clinical relevance of the appendix. (20 marks)
2. Describe the origin, course, branches, distribution and clinical relevance of the axillary artery. (20 marks )