



**AMREF INTERNATIONAL UNIVERSITY  
SCHOOL OF MEDICAL SCIENCE  
DEPARTMENT OF REHABILITATION MEDICINE  
BACHELOR OF SCIENCE IN PHYSIOTHERAPY  
END OF SEPT-DECEMBER 2024 TRIMESTER EXAMINATIONS**

**UNIT CODE: PHT 213**

**UNIT NAME: Regional Anatomy (Abdomen, pelvis and  
Perineum). Special exams**

**DATE: Day/ Date/ AUGUST**

**TIME: TWO HOURS**

**START: 0:00 STOP : 0:00**

**INSTRUCTIONS (physical exams)**

- 1. Do not write on this question paper**

(Marks and questions distribution as per program curriculum.)

**INSTRUCTIONS (Online examinations)**

1. This exam is marked out of 70 marks
2. This Examination comprises 3 Sections
3. This online exam shall take 2 Hours
4. Late submission of the answers will not be accepted
5. Ensure your web-camera is on at all times during the examination period
6. No movement is allowed during the examination
7. Idling of your machine for 5 min or more will lead to lock out from the exam
8. The Learning Management System (LMS) has inbuilt integrity checks to detect cheating
9. Any aspect of cheating detected during and or after the exam administration will lead to nullification of your exam
10. In case you have any questions call the invigilator for this exam on Tel. 0705833434 and or the Head of Department on Tel 0720491032
11. For adverse incidences please write an email to: [amiu.examinations@amref.ac.ke](mailto:amiu.examinations@amref.ac.ke)

**Section A. Multiple choice questions. Answer all the questions (30 Marks)**

1. Regarding the diaphragm

- a) It has a central tendon which is fused inseparably to the visceral pericardium
- b) Its right crus are fixed to the upper two lumbar vertebrae
- c) Its fibres arise in continuity with those of the internal oblique muscle
- d) 95% of its muscle fibres are of the slow twitch fatigue resistant variety
- e) Its proprioceptive fibres come from the lower intercostal nerves

2. The Anterior abdomen is divided into zones or regions, which term is NOT used to identify a region of the abdomen?

- a) Left hypochondriac
- b) Epigastric
- c) Hypogastric
- d) Right sacral

3. The anterolateral abdominal muscles are:

- a) External oblique muscle arises by eight digitations from back of lower eight ribs and interdigitates with serratus anterior and pectoralis major
- b) The lower border external-oblique forms the inguinal ligaments
- c) Internal oblique inserts into the line alba from a single aponeurosis
- d) External oblique fibres run obliquely upwards and forwards
- e) Transversus abdominus runs anterior to rectus abdominus until the criculate line

4. As the ureters enter the bony pelvis, they pass anterior to the:

- a) Femoral nerve
- b) Gonadal artery
- c) Psoas muscle
- d) Genitofemoral nerve
- e) Common iliac artery

**5.** Which is the most common site of the appendix?

- a) Retro-ileal
- b) Pelvic
- c) Retro-caecal
- d) Anterior to terminal ileum
- e) Below terminal ileum overlying psoas

**6.** The place where the arteries, veins, lymphatics and nerves enter or leave the kidney is called?

- a) The reno-atrio notch
- b) The renal pelvis
- c) The carina
- d) The hilus

**7.** A midline abdominal incision below the umbilicus passes through all of the following except?

- a) Linea alba
- b) Pyramidalis
- c) Extra peritoneal fat
- d) Transverse fascia

**8.** In what part of the kidney are the glomeruli located?

- a) In the medulla
- b) In the minor calyces
- c) In the hilus
- d) In the cortex

**9.** The “The opening at the end of the penis” is also known as ?

- a) The shaft of the penis
- b) The prostate gland
- c) external urethral meatus

d) The scrotum

**10.** In regards to the kidneys:

- a) The hilum of the left kidney is separated from the peritoneum by the duodenum
- b) They lie inferior to the pleura
- c) The right kidney lies at a lower level to the left kidney
- d) The renal fascia encloses the kidney and suprarenal gland within the same sheath
- e) The renal pelvis is lined with columnar epithelium

**11.** The male reproductive tract passes through?

- a) The seminiferous vesicles
- b) The prostate
- c) The bladder
- d) The bulbourethral gland

**12.** Explain the nerve supply to the diaphragm?

- a) From the respiratory centre in concert with chemoreceptors that detect blood oxygen level
- b) By the spinal nerves arising from thoracic vertebrae at the same level
- c) The vagus nerve arising from the medulla oblongata
- d) By the phrenic nerve arising from vertebrae C3 to C5

**13.** How best can you explain the ureter?

- a) Passes anterior to the uterine artery in the female
- b) Develops from the metanephric cap
- c) Is represented by dermatome L2
- d) In the male, is crossed anteriorly by the ductus deferens
- e) Passes anterior to genitofemoral nerve

**14.** How best can you describe the duodenum:

- a) It is a retroperitoneal structure
- b) It lies between the levels of L2-L4
- c) It is 25cm in length
- d) In its fourth part, it lies to the right of the aorta
- e) All of the above

**15.** The following are correct concerning the diaphragm except which?

- a) Is thin musculotendinous sheet that can be ruptured by extreme pressure from below.
- b) The right crus provide a sphincter-like mechanism for the esophagus.
- c) On contraction, the diaphragm increases the intrathoracic pressure
- d) On contraction, the diaphragm assists in the return of venous blood to the right atrium and lymph to the thoracic duct.

**16.** In relation to the diaphragm, the azygos vein passes:

- a) Through the oesophageal hiatus.
- b) Through the aortic hiatus
- c) Through the vena caval hiatus.
- d) Through the perforation in the crura.

**17.** In regards to rectus sheath which is correct

- a) Completely encloses the upper  $\frac{1}{4}$  of rectus abdominal muscles
- b) Epigastric vessels lie between the rectus abdominis muscle and the rectus sheath posteriorly
- c) Anterior lower  $\frac{1}{4}$  of rectus abdominis muscle lies directly on the transverse fascia
- d) Last end of rectus sheath anteriorly to the rectus muscle is called arcuate line

**18.** Explain the diaphragm

- a) Has an aortic opening which transmits the right vagus nerve
- b) Has an oesophageal opening at the level of T8
- c) Is supplied in its central part mainly by the pericardiophrenic and musculophrenic arteries
- d) Is pierced by the left phrenic nerve at the left dome

**19.** Which explains the pelvic floor best:

- a) Creates a gutter that slopes downwards and backwards
- b) Consists of Ischiococcygeus, iliococcygeus and pubococcygeus
- c) Muscles have significant insertion into the sacrum
- d) Has the anococcygeal raphe a superficial part
- e) None of the above

**20.** The male ejaculatory ducts are situated where?

- a) In the testicles before the epididymis.
- b) Between the bulbourethral glands and the urethra.
- c) At the end of the vas deferens (ductus deferens)
- d) In the penis.

**21.** Regarding the duodenum:

- a) All of the duodenum is retroperitoneal
- b) The 3rd part receives the bile duct
- c) The 3rd part is crossed by the superior mesenteric artery
- d) The 2nd part passes over the hilum of the right kidney
- e) The 4th part is 5 cm long

**22.** The volume of male ejaculation occurs from where?

- a) Epididymis
- b) Seminiferous tubules
- c) Seminal vesicles
- d) Prostate gland

**23.** Regarding the anterior abdominal wall which statement is correct?

- a) The arcuate lines lie midway between the symphysis pubis and umbilicus
- b) Between the umbilicus and the lateral margin transversus aponeurosis lies posterior the rectus
- c) The inferior epigastric artery originates from the internal iliac
- d) It gives support to the liver and spleen
- e) The ilioinguinal nerve passes through the deep inguinal ring

**24.** A young woman's first menstrual period is known as?

- a) Menses
- b) Eclampsia
- c) Menarche
- d) Amenorrhea

**25.** During menstruation which layer of the uterus is shed off?

- a) Perimetrium
- b) Endometrium
- c) Myometrium
- d) Eclometrium

**26.** The functional unit of the kidney is called:

- a) Nephron
- b) Calyx
- c) Glomerulus
- d) Corpuscle

**27.** In relation to the Diaphragm, which is the correct description of the attachment:

- a) Left crus is attached to L2
- b) Right crus are attached to L1
- c) Lateral arcuate ligament is formed by fascia of psoas major muscle overlapping the diaphragm
- d) All the above

**28.** How best can the posterior abdominal wall be explained:

- a) Psoas minor insets in the pectineal line and is innervated by L2
- b) Quadratus Lumborum muscle stabilizes the 12th rib, and innervated by T12-L4
- c) Psoas major muscle is innervated by L1-L4
- d) Iliac muscle originates from iliac fossa and is innervated by S1-S4

**29.** Explain the superficial fascia of the anterior abdominal wall:

- a) It is one layer above the umbilicus and becomes two layers below it
- b) It splints to enclose the inguinal ligament
- c) The deep membrane layer is in continuation with anterior part of perineum into the ischiopubic rami and posterior margin of perineal membrane
- d) All the above

**30.** The structure that connects the kidneys to the urinary bladder is the:

- a) Urethra
- b) Renal pelvis
- c) Collecting duct
- d) Ureter

**Section B Structured Short Answer Questions. Answer all the questions (20 marks)**

1. Describe the subdivisions of the bony pelvis (10 Marks)
2. Describe the pelvic wall (10 Marks)

**Section C Structured Long Answer Questions. Attempt two questions only (20 marks)**

1. Describe the foramina in the bony pelvis (10 Marks)
2. Explain the anterior abdominal muscle (10 Marks)
3. Describe the male urethra (10 Marks)