

# 2019 Scheme

Q.P. Code: 112001

Reg. no.: .....

**First Professional MBBS Degree Supplementary (SAY) Examinations October 2024**

**Human Anatomy Paper II**

**Thorax, Abdomen & Pelvis, Lower Limb with Concerned Embryology & Histology**

**Time: 3 Hours**

**Total Marks: 100**

- Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers
- Indicate the question number correctly for the answer in the margin space
- Answer all parts of a single question together • Leave sufficient space between answers
- Draw table/diagrams/flow charts wherever necessary

## 1. Multiple Choice Questions

(20x1=20)

**The Answers to MCQ questions (Q.No. i to Q.No. xx) shall be written continuously on the first two writing sheets (ie Page No. 3 & 4) only**

**Questions i-v are single response type questions**

- Crypts of Lieberkuhn are present in
  - Stomach
  - Liver
  - Small intestine
  - Pancreas
- Which of the following pleura forms the pulmonary ligament
  - Visceral
  - Costal
  - Diaphragmatic
  - Mediastinal
- The lining epithelium of uterine endometrium is
  - Simple squamous
  - Simple cuboidal
  - Simple columnar
  - Pseudostratified columnar
- All of the following are derived from hindgut EXCEPT:
  - Rectum
  - Appendix
  - Descending colon
  - Sigmoid colon
- Which one of the following bones is devoid of muscular attachments
  - Talus
  - Cuboid
  - Calcaneum
  - Navicular

**Question vi-x are case scenario-based questions:**

A 35 year old man noticed a gradually increasing swelling in the right groin. After manually reducing the swelling the surgeon occluded the deep inguinal ring with the thumb and then asked the patient to cough. The swelling was prevented to come out which was suggestive of indirect inguinal hernia.

- The deep inguinal ring is a deficiency in the
  - External oblique aponeurosis
  - Internal oblique muscle
  - Transversalis fascia
  - Transversus abdominis
- Which defense mechanism closes the superficial inguinal ring when the external oblique muscle contracts
  - Ball valve
  - Shutter
  - Flap valve
  - Slit valve
- The artery which is just medial to the deep inguinal ring is
  - Superficial epigastric
  - Superficial circumflex iliac
  - Inferior epigastric
  - Deep circumflex iliac
- The medial boundary of Hesselbach's triangle is formed by
  - Conjoint tendon
  - Inferior epigastric artery
  - Medial border of internal oblique
  - Lateral border of rectus abdominis
- Which one of the following structures has triple relation (anterior, roof and posterior) to the inguinal canal?
  - Internal oblique
  - External oblique
  - Transversalis fascia
  - Conjoint tendon

**Question numbers xi-xv consists of two statements - Assertion (A) and Reason (R). Answer these questions by selecting the appropriate options given below.**

- A: Superolateral quadrant of gluteal region is a safe site for intramuscular injection  
R: Injection into the medial quadrants will endanger important nerves and vessels
  - Both A and R are true and R is the reason for A
  - Both A and R are true and R is not the reason for A
  - A is correct but B is incorrect
  - A is incorrect but R is correct
- A: Anterior cardiac veins open into coronary sinus  
R: Coronary sinus is the largest vein of the heart
  - Both A and R are true and R is the reason for A
  - Both A and R are true and R is not the reason for A
  - A is correct but B is incorrect
  - A is incorrect but R is correct
- A: Pudendal nerve is related to the dorsal surface of ischial spine  
R: Pudendal nerve block is given during episiotomy suturing after vaginal delivery
  - Both A and R are true and R is the reason for A
  - Both A and R are true and R is not the reason for A
  - A is correct but B is incorrect
  - A is incorrect but R is correct

(PTO)

- xiv. A: Internal thoracic artery can be used for coronary bypass surgery  
 R: Internal thoracic artery is a branch of ascending aorta  
 a) Both A and R are true and R is the reason for A      c) A is correct but B is incorrect  
 b) Both A and R are true and R is not the reason for A      d) A is incorrect but R is correct
- xv. A: Injury to tibial nerve results in foot drop  
 R: Tibial nerve is a branch of sciatic nerve  
 a) Both A and R are true and R is the reason for A      c) A is correct but B is incorrect  
 b) Both A and R are true and R is not the reason for A      d) A is incorrect but R is correct

**Question numbers xvi-xx are multiple response type questions. Read the statements & mark the answers appropriately.**

- xvi. Which of the following statement/s is/are true about thoracic duct  
 1) It begins at the lower border of T12 vertebra  
 2) It has a beaded appearance due to the presence of numerous valves  
 3) It is about 25 cm in length  
 4) Injury to the thoracic part of the duct may cause chylothorax  
 a) 1, 3      b) 2, 3, 4      c) 1, 2, 3      d) 1, 2, 4
- xvii. Which of the following statement/s is/are true about rectum  
 1) The rectosigmoid junction corresponds to third sacral vertebra  
 2) Fascia of Waldeyer separates the rectum from the urinary bladder  
 3) The inferior rectal valve is the largest and most constant  
 4) The puborectalis sling maintains the angulation at the anorectal junction  
 a) 2, 3, 4      b) 1, 4      c) 1, 2, 3      d) 3, 4
- xviii. In addition to aorta, structures passing through the aortic opening of diaphragm are:  
 1) Thoracic duct      2) Vagus nerve      3) Azygos vein      4) Hemiazygos vein  
 a) 1, 2, 3      b) 1, 2, 4      c) 1, 3      d) 2, 4
- xix. Muscles inserted into the iliotibial tract are:  
 1) Biceps femoris      2) Tensor fascia lata      3) Gluteus medius      4) Gluteus maximus  
 a) 1, 3      b) 2, 3, 4      c) 2, 4      d) 1, 2, 3
- xx. Branches arising from the posterior division of internal iliac artery are:  
 1) Internal pudendal      2) Iliolumbar      3) Lateral sacral      4) Superior gluteal  
 a) 2, 4      b) 1, 2, 3      c) 1, 3      d) 2, 3, 4

### Long essays

**(2x10=20)**

2. A 60 year old man who is a smoker, alcoholic and known hypertensive suddenly developed pain in the left side of chest radiating along the medial border of left arm. ECG showed myocardial ischaemia. Coronary angiogram was advised for further evaluation. Based on your knowledge of anatomy answer the following:  
 a) Describe the origin, course, branches and distribution of coronary arteries  
 b) Add a note on coronary dominance  
 c) Explain the nerve supply of heart  
 (6+2+2)
3. Describe the boundaries, contents and applied anatomy of femoral triangle.  
 (3+5+2)

### Short Essays:

**(6x6=36)**

4. Describe the course, branches and applied anatomy of typical intercostal nerve  
 (2+2+2)  
 5. Explain the formation and contents of rectus sheath  
 (4+2)  
 6. Describe the boundaries and contents of perineal pouches  
 (3+3)  
 7. Describe the internal features, lobes and clinical importance of prostate  
 (2+2+2)  
 8. Describe the development and microscopy of pancreas  
 (4+2)  
 9. Describe the cruciate ligaments and menisci of knee joint and their clinical importance  
 (3+3)

### Short Notes:

**(6x4=24)**

10. Describe the microscopic structure of liver  
 11. Explain the various positions of vermiform appendix and its applied anatomy  
 12. Explain the course, branches and clinical importance of dorsalis pedis artery  
 13. Explain the anatomical basis of venous engorgements of anterior abdominal wall and anal canal in portal hypertension  
 14. Draw a neat labelled diagram of mediastinal surface of right lung  
 15. Describe the importance of communication skill in medical profession

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