

001/25

**The West Bengal University of Health Sciences
MBBS 1st Professional Examination (New Regulation),
October-November 2025**

Subject: Anatomy
Paper : I

Full Marks: 100
Time: 3 hours

Attempt all questions. The figures in the margin indicate full marks.

1. A 65 year old male came to emergency with sudden onset of sweating and deep squeezing pain over the anterior chest wall, more located on the left side with the radiation of pain along the inner side of the left arm. He had a long history of hypertension. 1+3+1+(1+3+4)+2

- i. What is the organ most likely to be involved in such case?
- ii. How do you explain the radiation of pain along the left arm?
- iii. Name the arteries supplying the organ.
- iv. Write in brief about the right such artery under the following headings:
a. Origin b. Course c. Branches with necessary diagrams
- v. What do you mean by coronary dominance?

2. Explain the following statements:

5x3

- i) Injury to long thoracic nerve causes winging of scapula.
- ii) Chance of Osteomyelitis (infection of bone) is more at the metaphyseal region of growing long bone.
- iii) Fibrous pericardium is fused with central tendon of the diaphragm.
- iv) Median cubital vein is chosen for drawing blood.
- v) Haematemesis (vomiting of blood) may occur in a patient of portal hypertension.

3. Short questions (applied aspects):

4x5

- i) Lymphatic drainage of the mammary gland with related applied importance. 3+2
- ii) A male patient had attended surgery clinic with a swelling in the groin region which increased with coughing; after thorough clinical examination, it was diagnosed as a case of indirect inguinal hernia. With your knowledge of anatomy how do you differentiate between direct inguinal and indirect inguinal hernia? Write a note on the factors preventing the formation of inguinal hernia. 3+2
- iii) What is the applied importance of Pouch of Douglas? Write down its boundaries. 2+3
- iv) A 28 year old woman in her 3rd trimester presents with painless bright red vaginal bleeding. An USG reveals that her placenta is completely covering the internal cervical Os. Explain the condition. Give a brief note about different types of abnormal positioning of placenta. 2+3

4. Short notes:

3x6

- i) Bronchopulmonary segments and their pattern in right lung.
- ii) Classify synovial joint according to the shape of articular surfaces and axis of movements, with suitable examples.
- iii) Microstructure of spleen with a suitable labelled diagram.

5. Write short notes on the following:

4x5

- i) Anterior relations of kidney.
- ii) Supports of Uterus.
- iii) Ethical practices of the medical students while handling the cadaver in dissection classes.
- iv) Notochord and its remnants in adult life.

6. Choose the correct option for each of the following:

12x1

- i) A 55 year old male presents with chest pain and is diagnosed with an aortic aneurysm. During surgery, the surgeon notes the aneurysm is near the ligamentum arteriosum. Which structure is most closely related to this landmark?
a) Right vagus nerve b) Left recurrent laryngeal nerve c) Oesophagus d) Trachea
- ii) A construction worker complains of progressive numbness and tingling in the palmar surface of his lateral 3 and ½ digits. He also reports weakness in his thumb's ability to oppose the other fingers. What is the most likely cause?
a) Carpal tunnel syndrome b) Ulnar nerve entrapment c) Winged scapula d) Radial nerve palsy
- iii) A surgeon is attempting to identify the base of the vermiform appendix during an appendectomy. Which anatomical landmark serves as a reliable guide for its location?
a) The point where all taenia coli converge b) The ileo caecal orifice
c) The mesentery of the ileum d) The superior ileo-caecal fold
- iv) A developmental biologist is studying the formation of the three primary germ layers in an embryo. The initial event marking the beginning of the gastrulation is the formation of a linear thickening on the dorsal surface of the epiblast. What is this structure called?
a) Notochord b) Primitive streak c) Primitive node d) Ectopic pregnancy
- v) While doing thoracocentesis, needle should be introduced through:
a) Upper border of lower rib b) Lower border of upper rib
c) Upper border of upper rib d) Lower border of lower rib
- vi) A patient develops dysphagia (difficulty in swallowing) to solid food. The doctor diagnoses it as a compression of the oesophagus by the heart. Which chamber of the heart may enlarge to cause it?
a) Right atrium b) Left atrium c) Right ventricle d) Left ventricle
- vii) A chronic alcoholic patient develops dilated veins in the abdomen. The direction of the blood flow is away from the umbilicus. What is the most probable diagnosis?
a) SVC obstruction b) IVC obstruction
c) Superior vesical artery obstruction d) Portal hypertension
- viii) A patient is suffering from pain abdomen. On examination, a swelling was found in epigastric region. The case was diagnosed to be a case of pseudopancreatic cyst. Using your anatomical knowledge, mention where will be the collection?
a) Greater sac peritoneum b) Omental bursa c) Space of Retzius d) Paravertebral gutter
- ix) A 68 year old man presents with difficulty in urination. Digital rectal examination reveals an enlarged prostate. Which lobe of the prostate is most commonly involved in benign prostatic hyperplasia?
a) Anterior lobe b) Posterior lobe c) Lateral lobe d) Median lobe
- x) A 35 year old tennis coach presents with pain and tenderness over the lateral aspect of his right elbow, especially on wrist extension and gripping activities. Which of the following muscle is most likely involved in this condition?
a) Flexor carpi ulnaris b) Pronator teres
c) Triceps d) Extensor carpi radialis brevis
- xi) A patient with fracture humerus develops nonunion due to nonproliferation of osteocytes. Which of the following statement is true about osteocyte?
a) Derived from osteoclast
b) Neighboring osteocytes are in contact with each other through cytoplasmic extension
c) 2-4 osteocytes are present in each lacuna
d) Responsible for resorption of bone
- xii) A baby develops severe cyanosis soon after birth. Echocardiogram shows transposition of great vessels. The defect is due to failure of formation of which of the following structures?
a) Endocardial cushion b) Septum primum
c) Septum secundum d) Aortopulmonary septum