

001/23

**The West Bengal University of Health Sciences**  
**MBBS 1<sup>st</sup> Professional Examination (New Regulation), Nov-Dec 2023**  
Subject: Anatomy Full Marks : 100  
Paper : I Time: 3 hours

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

1. a) An young male suffered a road traffic accident and came to the emergency. On clinical examination, he was in a state of shock with severe pallor, tense abdomen, patchy ecchymosis on the left hypochondrium with fracture lower ribs on the left side. He was immediately shifted for emergency laparotomy.
  - i) What is the provisional underlying cause of this clinical condition?
  - ii) What is the blood supply of the affected organ?
  - iii) What are the important ligaments attached to the affected organ?
  - iv) What is the source of development of the affected organ and the ectopic sites where they may be found?
  - v) Post operatively he was found to have high blood glucose level. What may be the cause of this condition? 1+6+4+3+1
  
- b) A 50 year old man fell down from the stairs resulting in severe pain in the right shoulder. He was taken to the Orthopedic OPD. On examination, he was seen to support his right elbow with his left hand. The right shoulder revealed loss of normal rounded contour and loss of cutaneous sensations in the lower half of the deltoid region. Any kind of movement around the shoulder was very painful.

Explain the condition from your knowledge of anatomy. What is the cause of loss of normal contour of the shoulder? Why there is loss of cutaneous sensation in the lower half of deltoid region? Enumerate the ligaments of the shoulder joint. How the stability of the joint is maintained? Discuss the mechanism of elevation of arm above head. Which type of dislocation of shoulder joint is common and why? 2+2+1+3+2+3+2
  
2. a) What is Intra-embryonic mesoderm? What are the derivatives of I.E.M.? Name any three structures derived for IEM. Name the derivatives of intra-embryonic coelom. 2+3+3+2
- b) Draw and label the histological structure of spleen and lymph node. Compare their histological features. 4+4+2
- c) A 45 year old female, known case of SLE (autoimmune disease) is on immune suppressants for last 2 years, presented with cough and breathlessness, no fever. Chest radiography showed right sided pleural effusion and physician planned for thoracocentesis (removal of fluid). 2+4+2+2
  - i) What would be the preferred site for this procedure and why?
  - ii) Write in brief about subdivisions and innervation of parietal pleura.
  - iii) What are embryonic sources of the different layers of pleura?
  - iv) What is pulmonary ligament and its function?
  
3. Write a short notes on the following: 2x5
  - a) Cadaveric Oath.
  - b) Tests for ovulation.
  
4. Explain the following statements: 5x4
  - a) A small segment of oesophagus may be differentiated from that of duodenum by histological studies.
  - b) A tailor presents with diffuse swelling of the palm after a needle prick over the tip of the little finger.
  - c) Prognosis of coronary artery diseases are better in old age than young.
  - d) Cancer of prostate may metastasise to vertebral column.
  - e) Conceptus is not rejected by its mother.

10x1

5. Choose the correct option for each of the following:
- All of the following are lateral branches of abdominal aorta except-
    - Inferior phrenic artery
    - Superior phrenic artery
    - Renal artery
    - Gonadal artery
  - All are tributaries of coronary sinus of heart except-
    - Great cardiac vein.
    - Anterior cardiac vein.
    - Small cardiac vein.
    - Middle cardiac vein.
  - A tumour affecting the upper lobe of lung may produce all except:
    - Venous engorgement and odema of the face and upper limb.
    - Paralysis of the hemidiaphragm.
    - Increased breath sound on affected side.
    - Decreased radial pulsation at the wrist.
  - What are the three types of fibres present in the connective tissue?
    - Collagen, elastic and neurofibrils
    - Collagen, elastic and myofibrils
    - Collagen, elastic and reticular
    - Elastic, reticular and osteoblasts
  - Which of the following statement is true about osteocyte:
    - 2 or 4 osteocytes are present in each lacuna.
    - They are derived from osteoclast.
    - They are responsible for reabsorption of bone.
    - Neighbouring osteocytes are in contact with each other through cytoplasmic extension.
  - Your teacher has demonstrated the specimen of testis with spermatic cord and noticed interior of testis. Spermatogenesis is transformation of:
    - Spermatogonium into primary oocyte.
    - Primary spermatocyte into secondary spermatocyte.
    - Secondary spermatocyte into spermatid.
    - Spermatid into sperm.
  - The most common type of diaphragmatic hernia in infant is;
    - Bochdalec hernia
    - Morgagni hernia
    - Sliding hernia
    - Paraesophageal hernia
  - Select the incorrect statement about the wrist joint:
    - Its upper articular surface is formed by radius and ulna.
    - Its lower articular surface is formed by scaphoid, lunate & triquetral bone.
    - It is an ellipsoidal joint.
    - It permits free rotator movements.
  - What unique features in the wall of the urinary bladder wall allow it to stretch to increase volume:
    - Thicker smooth muscle layers in the wall.
    - Thicker connective tissue in the lamina propria.
    - The presence of membrane plaques in the superficial cells.
    - Increased number of desmosomes and junctional complexes.
  - Anorectal ring receives contribution from all except:
    - Sphincter ani externus
    - Sphincter ani internus.
    - Hiococcygeus
    - Puborectalis.