



UNIVERSITY OF JAFFNA, SRI LANKA
FIRST EXAMINATION FOR MEDICAL DEGREES – JULY 2025
ACADEMIC YEAR 2022/23
ANATOMY – PAPER II

Date: 21.07.2025

Time: Three hours

Answer ALL TEN Questions

Answer EACH QUESTION in a separate answer book

1. A 45-year-old man was admitted to the accident and emergency unit at Teaching hospital, Jaffna, after falling from a ladder. He was experiencing intense pain and an obvious deformity in his right shoulder. On examination, the normal contour of the shoulder was absent, and he was unable to move the shoulder joint properly. An X-ray confirmed that he had suffered an anterior dislocation of the shoulder.
 - 1.1 Briefly describe the key factors that stabilize the shoulder joint 25 Marks
 - 1.2 Outline the blood supply of shoulder joint 15 Marks
 - 1.3 List the movements possible at the shoulder joint and mention the main muscles involved in each movement 25 Marks
 - 1.4 List the types of shoulder dislocations 10 Marks
 - 1.5 Mention the likely complications following an anterior shoulder dislocation 15 Marks
 - 1.6 Explain the reason for the loss of normal contour of the shoulder in this patient 10 Marks
2. A 38-year-old male was brought to the hospital with fever, vomiting and right iliac fossa pain. The condition was diagnosed as acute appendicitis and open appendicectomy performed.
 - 2.1 Define the term “appendicectomy” 10 Marks
 - 2.2 Name the anatomical imaginary line that forms the superior boundary of right iliac fossa 10 Marks
 - 2.3 What is the reason for the pain in the right iliac fossa in this patient? 15 Marks
 - 2.4 Explain two surgical importance of Mc Burney’s point 20 Marks
 - 2.5 Outline the surface marking of Mc Burney’s point 15 Marks
 - 2.6 List three positions of appendix and indicate the most common position 20 Marks
 - 2.7 Name the artery that gives off appendicular artery 10 Marks

3.

3.1 A 65-year-old male was admitted to the hospital with difficulty in breathing and severe pain on the chest. Investigations revealed presence of moderate amount of fluid in the pleural cavity. Pleural drainage was performed by passing a needle just above the upper border of the 8th rib at mid scapular line.

3.1.1 Name the most likely condition present in this patient 10 Marks

3.1.2 How do you explain the occurrence of "difficulty in breathing" in this patient 10 Marks

3.1.3 List the muscles that are present in the intercostal space in order 20 marks

3.1.4 Name the structure(s) that pass(es) along the costal groove of the 8th rib 10 Marks

3.1.5 Outline the blood supply of the parietal pleura 20 Marks

3.2 Outline four features of autosomal dominant inheritance pattern 30 Marks

4. A 36-year old woman presented with the complain of pain beneath the right mandible. She stated that the pain was aggravated particularly after meals. It was diagnosed as sialolithiasis (salivary stones) in the right submandibular duct.

4.1 Write short notes on the course of the submandibular duct 30 Marks

4.2 Write the relation between the lingual nerve and submandibular duct 15 Marks

4.3 Name the muscle that divides the submandibular gland into two lobes 10 Marks

4.4 Briefly describe the anatomical relations of lateral surface of the submandibular gland 20 Marks

4.5 List the structures lie on the hyoglossus muscle from above downwards 10 Marks

4.6 Name three structures at risk of injury during the surgical operation of submandibular gland 15 Marks

5. A 60-year-old female patient complaints of right groin pain, nausea and vomiting. Physical examination revealed a palpable soft tissue swelling at femoral triangle below the medial aspect of right inguinal ligament. It was diagnosed as femoral hernia. Figure 1 illustrates the anatomy of femoral triangle.

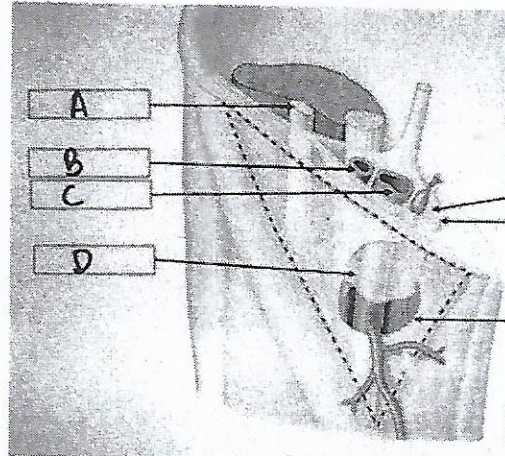


Figure 1

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|-------|--|----------|
| 5.1 | Write the borders of the femoral triangle | 10 Marks |
| 5.2 | Identify A, B, C and D | 20 Marks |
| 5.3 | List two branches of 'B' in thigh | 10 Marks |
| 5.4 | Name the muscles that form the floor of the femoral triangle | 10 Marks |
| 5.5 | List the branches of the structure 'A' | 20 Marks |
| 5.6 | List the contents of femoral sheath | 20 Marks |
| 5.7 | Write two differences between femoral hernia and inguinal hernia | 10 Marks |
| 6. | | |
| 6.1 | Regarding the diaphragm | |
| 6.1.1 | Mention the structures forming the diaphragm during its development | 20 Marks |
| 6.1.2 | List <u>three</u> abnormalities that may occur during the development of diaphragm | 15 Marks |
| 6.1.3 | Mention the three major openings present in the diaphragm | 10 Marks |
| 6.1.4 | Indicate the vertebral levels of each opening mentioned in 6.1.3 | 10 Marks |
| 6.1.5 | List the structures that pass through each opening mentioned in 6.1.3 | 25 Marks |
| 6.2 | Write notes on microscopic anatomy of lower part of oesophagus | 20 Marks |

7. A 24-year-old male was admitted with epigastric pain which radiates to the back. The condition was diagnosed as acute pancreatitis. He underwent Magnetic Resonance Cholangiopancreatography (MRCP) and the image is given below (figure 2). During the ward stay he developed portal vein thrombosis as a complication.

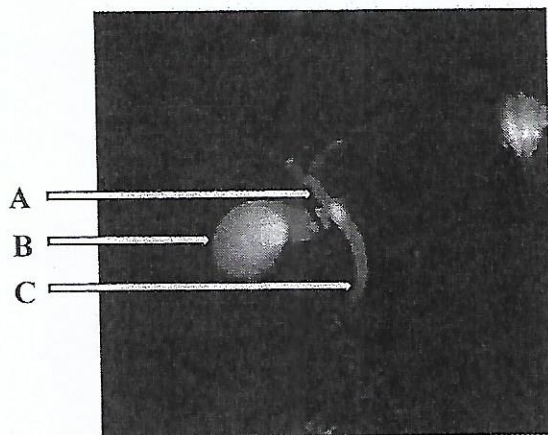


Figure 2

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|-----|---|----------|
| 7.1 | Explain the anatomical basis for the epigastric pain in this patient | 20 Marks |
| 7.2 | Name the two ducts of pancreas and their draining points in the duodenum | 20 Marks |
| 7.3 | Briefly describe the embryological development of pancreatic ducts | 20 Marks |
| 7.4 | Name the labelled anatomical parts A, B and C | 15 Marks |
| 7.5 | Name the two major veins which form the portal vein | 10 Marks |
| 7.6 | List <u>five</u> sites where portal-systemic anastomoses is present in a healthy person | 15 Marks |
8. A 57-year-old male presented with sudden neck pain radiating down his arms, progressing to weakness and numbness in both upper and lower extremities. Magnetic Resonance Imaging (MRI) revealed an anterior spinal cord lesion, and the diagnosis of anterior spinal cord syndrome was made.
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| 8.1 | Name the artery likely involved in this patient | 10 Marks |
| 8.2 | List the other arteries that supply the spinal cord | 10 Marks |
| 8.3 | Draw a line diagram of cross section of spinal cord (at cervical region) and indicate the location of somatosensory tracts and the pyramidal tract | 30 Marks |
| 8.4 | Explain the anatomical basis for weakness in both upper and lower extremities in this patient | 20 Marks |
| 8.5 | Name the somatosensory pathway likely spared in this patient | 15 Marks |
| 8.6 | Briefly describe the anatomy of the dura matter of spinal cord | 15 Marks |

9. A 74-year-old woman was admitted to the emergency department with acute pain and swelling in her distal left forearm after falling on her outstretched hand while getting down from a bus. Physical examination revealed deformity of the distal forearm with tenderness and swelling over that site. Imaging studies (Anteroposterior [AP] and lateral radiographs) (figure 3) confirmed the diagnosis of fracture of the distal radius (shown by thick arrow).

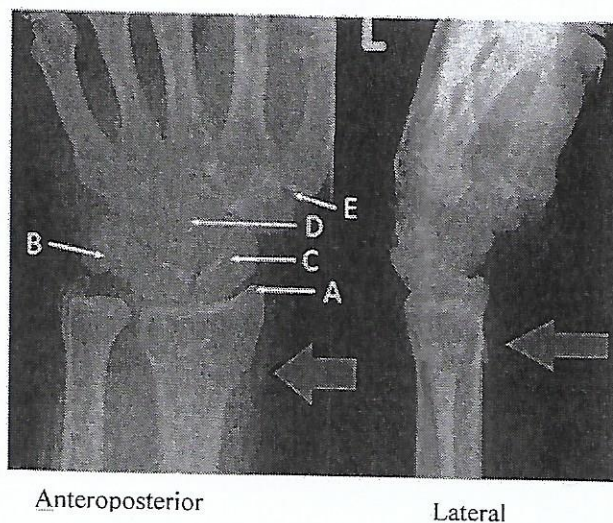


Figure 3

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|-------|---|----------|
| 9.1 | Name the above fracture | 10 Marks |
| 9.2 | Name the hand deformity that results from this fracture. | 10 Marks |
| 9.3 | Name the important anatomical structures at risk of injury in this fracture | 10 Marks |
| 9.4 | Answer the questions using the structures marked A – E in the Anteroposterior X-ray | |
| 9.4.1 | Name the structures A – E | 20 Marks |
| 9.4.2 | Name the anatomical area where the structure 'A' can be palpated | 10 Marks |
| 9.4.3 | Name the long tendon attached to structure 'B' | 10 Marks |
| 9.4.4 | Explain the clinical importance of fracture of 'C' in regards to its blood supply | 10 Marks |
| 9.4.5 | What is the clinical importance of ossification of structure 'D' | 10 Marks |
| 9.4.6 | Write the type of joint indicated by 'E' | 10 Marks |

10. A 47-year-old mother of three children presented with malodorous vaginal discharge and was found to have an irregular growth on the cervix. Histology of the growth revealed squamous cell carcinoma of the cervix.

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|------|---|----------|
| 10.1 | Describe the gross anatomy of the cervix | 40 Marks |
| 10.2 | Outline the blood supply of the cervix | 30 Marks |
| 10.3 | Describe the lymphatic drainage of the cervix | 20 Marks |
| 10.4 | Name the epithelium lines the cervical canal | 10 Marks |