



UNIVERSITY OF JAFFNA, SRI LANKA
FIRST EXAMINATION FOR MEDICAL DEGREES – JULY 2026
ACADEMIC YEAR 2023/24
ANATOMY – PAPER II



Date: 08.07.2026

Time: Three hours

Answer ALL TEN Questions

Answer EACH QUESTION in a separate answer book

1. A 45-year-old man is admitted after a severe blunt trauma to the abdomen. A midline (median) laparotomy is performed. Intraoperatively, severe injury to the liver is identified. In addition, pool of blood is seen in the dependent parts of the peritoneal cavity. Pringle's manoeuvre is applied during surgery.
 - 1.1. List the structures encountered in a midline abdominal incision in order. (20 marks)
 - 1.2. List three dependent areas of the peritoneal cavity where blood could be found in this patient. (15 marks)
 - 1.3. What is the purpose of performing Pringle's manoeuvre in liver surgery? (15 marks)
 - 1.4. Outline the boundaries of the epiploic foramen (foramen of Winslow). (15 marks)
 - 1.5. List the anatomical relations of the liver. (20 marks)
 - 1.6. Outline the blood supply of the liver. (15 marks)

2. A 60-year-old man presents with a swelling in the left parotid region and weakness of the left side of his face. He is diagnosed with parotid gland cancer with facial nerve palsy (injury).
 - 2.1. Where does the facial nerve originate? (10 marks)
 - 2.2. What are the functional components of the facial nerve? (15 marks)
 - 2.3. Name the branches of the facial nerve before it enters the parotid gland. (15 marks)
 - 2.4. Name the five terminal branches of the facial nerve. (15 marks)
 - 2.5. Describe the course of the facial nerve from its origin to its terminal branches. (30 marks)
 - 2.6. List three other clinical features of facial nerve palsy (15 marks)

3.

3.1. A 55-year-old woman presents with progressive dysphagia and weight loss for the past three months. Endoscopy is performed. A biopsy taken from a lesion at 35 cm from the incisor teeth confirms oesophageal cancer.

3.1.1. Mention the length of the oesophagus. (10 marks)

3.1.2. List the sites where anatomical constrictions may present in the oesophagus in a healthy person. (10 marks)

3.1.3. List the anatomical relations of thoracic part of the oesophagus. (25 marks)

3.1.4. Name the epithelium lining the oesophagus in a healthy person (10 marks)

3.1.5. List the anatomical structures that prevent reflux of gastric contents into the oesophagus. (15 marks)

3.2. Outline four features of autosomal recessive inheritance pattern. (30 marks)

4. A 10-year-old boy falls on his outstretched hand while playing cricket. He presents with swelling and deformity of the left elbow with inability to move the joint. X-ray shows a completely displaced supracondylar fracture of the humerus with posterior angulation. On examination, the radial pulse is absent, and the hand is pale and cold.

4.1. What do you understand by "supracondylar fracture of the humerus"? (10 marks)

4.2. How do you clinically differentiate a supracondylar fracture of humerus from a posterior dislocation of the elbow? (10 marks)

4.3. Name the major artery that is most likely injured in the supracondylar fracture of the humerus (10 marks)

4.4. List the anatomical relations of the artery (mentioned in 4.3) in the cubital fossa. (20 marks)

4.5. Name the nerve that is commonly injured in the supracondylar fracture of the humerus. (10 marks)

4.6. Describe the motor functions of the nerve (mentioned in 4.5) in the forearm and hand. (30 marks)

4.7. What do you understand by "Volkmann's ischemic contracture"? (10 marks)

5. A 35-year-old patient presents with left-sided ureteric colic. An image obtained from the CT - KUB (Computer Tomography of Kidney–Ureter–Bladder) scan of this patient is given below (figure 1) with labeled structures A, B, and C.



Figure 1: CT - KUB scan

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|------|---|------------|
| 5.1. | Mention the radiological section (view) of the CT - KUB scan (figure 1). | (05 marks) |
| 5.2. | Identify the structures labeled as A, B, and C. | (15 marks) |
| 5.3. | Describe the course of the ureter from the renal pelvis to the urinary bladder. | (30 marks) |
| 5.4. | List the sites where constrictions are present in the ureter in a healthy person. | (15 marks) |
| 5.5. | Describe the blood supply of the ureter along its course. | (20 marks) |
| 5.6. | Explain the anatomical basis of referred pain in ureteric colic. | (15 marks) |

6. A 16-year-old boy presents with a painless swelling in the right groin and scrotum. The swelling becomes more obvious when he coughs and disappears when he lies down. He is diagnosed with a right-sided inguinal hernia. During surgery, the neck of the hernial sac is found to be present lateral to the inferior epigastric artery.
 - 6.1. What is the most likely type of inguinal hernia present in this patient? (10 marks)
 - 6.2. List the boundaries of the inguinal canal. (20 marks)
 - 6.3. Outline the pathway of hernial sac in this patient from the abdominal cavity to the scrotum. (20 marks)
 - 6.4. Explain the embryological basis of occurrence of inguinal hernia in this patient. (20 marks)
 - 6.5. Name the coverings of the spermatic cord and state their layers of origin from the anterior abdominal wall. (15 marks)
 - 6.6. How is an inguinal hernia anatomically differentiated from a femoral hernia during clinical examination? (15 marks)

7. A 50-year-old man was involved in a road traffic accident and sustained a fracture of the left upper leg. He was treated with a Plaster of Paris (POP) cast. After removal of the cast, he developed difficulty in walking and numbness over the dorsum of the left foot. On examination, he had weakness of dorsiflexion and eversion of the left foot, resulting in a high-stepping gait.
 - 7.1. Mention the nerve that is most likely injured in this patient? (10 marks)
 - 7.2. Mention the most common site where this nerve is injured. (10 marks)
 - 7.3. Describe the course of this nerve and name its terminal branches. (30 marks)
 - 7.4. Outline the sensory supply of the foot by this nerve. (20 marks)
 - 7.5. Explain the anatomical basis of,
 - 7.5.1. Weakness of dorsiflexion of the foot. (15 marks)
 - 7.5.2. Weakness of eversion of the foot. (15 marks)

8. A 22-year-old man presents with an eight-day history of frontal headache, purulent nasal discharge, nasal blockage, and fever. On examination, there is tenderness over the forehead. He is diagnosed with acute bacterial sinusitis.
- 8.1. Mention the paranasal sinus that is most likely affected in this patient. (05 marks)
 - 8.2. Outline the sensory nerve supply of the sinus mentioned in 8.1. (15 marks)
 - 8.3. Name the other paranasal sinuses. (15 marks)
 - 8.4. Describe the drainage of each paranasal sinus into the nasal cavity. (20 marks)
 - 8.5. Name the largest paranasal sinus. (10 marks)
 - 8.6. Name the type of epithelium lining the paranasal sinuses. (10 marks)
 - 8.7. List two functions of the paranasal sinuses. (10 marks)
 - 8.8. Identify the labeled paranasal sinuses (A, B, and C) in the figure 2. (15 marks)

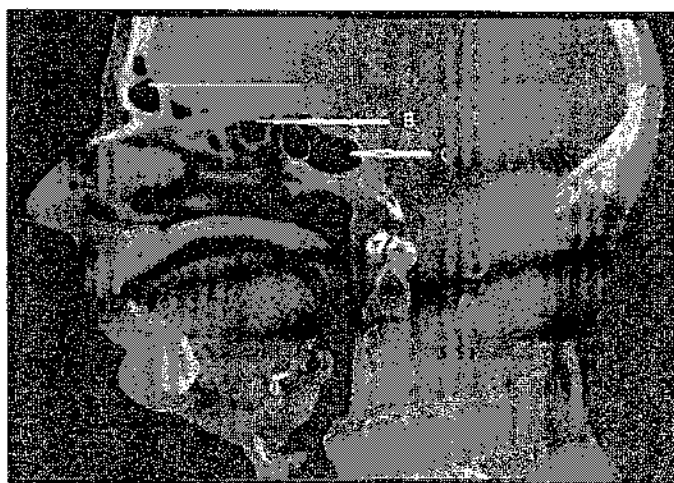


Figure 2

9. A newborn develops bile-stained vomiting and abdominal distension and is diagnosed during surgery as having midgut malrotation.
- 9.1. Describe the rotation of the midgut during embryological development. (25 marks)
 - 9.2. List the derivatives of the midgut. (25 marks)
 - 9.3. Name the artery that supplies the midgut and mention its main branches. (25 marks)
 - 9.4. Outline the histological adaptation of the small intestine to its functions. (25 marks)

10. A 32-year-old woman had heavy menstrual bleeding for past three years. She was diagnosed with a uterine fibroid (benign tumour of smooth muscle of the uterus) and underwent surgery.

- 10.1. Name the layers present in the wall of the uterus. (15 marks)
- 10.2. List the structures anatomically related to the uterus. (25 marks)
- 10.3. Name the main artery that supplies the uterus and mention its origin. (15 marks)
- 10.4. Describe the anatomical relation of the artery mentioned in 10.3 and ureter and, clinical importance of this anatomical relation. (20 marks)
- 10.5. Explain the embryological development of the uterus. (25 marks)
