

**UNIVERSITY OF JAFFNA, SRI LANKA**  
**FIRST EXAMINATION FOR MEDICAL DEGREES (1<sup>ST</sup>)– JULY 2016**  
**ANATOMY – PAPER II**



**Date: 11.07.2016**

**Time: 3 hours**

**Answer all TEN questions**

**Answer EACH PART in a separate answer book**

**PART A**

1. Eight year old male child was admitted with pleural effusion due to pleuritis. He complained pain on lower part of his left chest and left shoulder. Pleural drainage was performed.
  - 1.1. Illustrate the anatomy of pleural cavity (20 Marks)
  - 1.2. Briefly describe the structures that are pierced during pleural drainage (in order) (30 Marks)
  - 1.3. Name the adjacent structures vulnerable to get damaged during pleural drainage (20 Marks)
  - 1.4. How the damages to the above structures (mentioned in 1.3) could be prevented? (10 Marks)
  - 1.5. Explain the referral of pain to the above area (20 Marks)
  
2. Sixty year old manual worker consulted his family doctor for a painless swelling present in his right groin. The swelling expanded during coughing and disappeared when lying down.
  - 2.1. What is the most likely diagnosis of the condition? (10 Marks)
  - 2.2. What are the types of the condition mentioned in 2.1? (10 Marks)
  - 2.3. How will you differentiate the types mentioned in 2.2? (30 Marks)
  - 2.4. Write notes on “inguinal triangle” (20 Marks)
  - 2.5. List the contents of spermatic cord (30 Marks)
  
3. Write notes on
  - A. 3.1. sensory nerve supply of face (35 Marks)
  - 3.2. anatomy of Eustachian (auditory) tube (35 Marks)
  - B. Autosomal dominant inheritance pattern (30 Marks)

4. A 40 year old male was admitted with fever of five days duration. He had double vision as well. He had an abscess in the danger area of face before the onset of fever. After detailed investigations, the condition was diagnosed as cavernous sinus thrombosis.

- 4.1. Write three characteristic features of cavernous sinus (15 Marks)
- 4.2. Define the danger area of the face (20 Marks)
- 4.3. Explain, on anatomical basis, how the infection from the abscess in the above patient spread to the cavernous sinus? (20 Marks)
- 4.4. Write the structures present in the lateral wall of the cavernous sinus (25 Marks)
- 4.5. Explain the cause of double vision in this patient (20 Marks)

### PART B

5. A 47 year old female patient was admitted to the hospital with visual problem on her left eye. Complete ptosis and mydriasis (dilation of pupil) were seen in her left eye and that eye looked down and laterally. While direct and indirect light reflexes were normal in her right eye, light reflex could not be observed in her left eye. A posterior communicating artery aneurysm was seen in MRI.

- 5.1. What is the possible nerve lesion? (05 Marks)
- 5.2. Mention the nuclear components and their location of the above nerve (10 Marks)
- 5.3. With a labeled line diagram show the anatomical relation of the above nerve and posterior communicating artery (20 Marks)
- 5.4. Describe the anatomical reason for
  - 5.4.1. complete ptosis (15 Marks)
  - 5.4.2. left eye deviated down and laterally (15 Marks)
  - 5.4.3. Mydriasis (15 Marks)
  - 5.4.4. normal direct and indirect light reflex in right eye but not in left eye (20 Marks)

6. A 25 year old man with the past history of cut injury in the flexor surface of the distal right forearm presented to the surgical clinic with the deformity in the ulnar side of his right hand. On examination hyperextension of metacarpophalangeal joints and flexion of the interphalangeal joints of right little and ring fingers were noted. Froment's test was positive.

- 6.1. Name the structure that is injured to cause this deformity (10 Marks)
- 6.2. Describe the course and branches of the above structure in the hand (40 Marks)
- 6.3. Name the deformity present in this patient (10 marks)
- 6.4. Explain the deformity of the hand on anatomical basis (30 marks)
- 6.5. Name the muscle assessed in the Froment's test (10 Marks)

7. A 60 yearold female patient with lower abdominal pain and post-menopausal per-vaginal bleeding was found to have endometrial cancer. It was decided to perform total abdominal hysterectomy (removal of uterus) with bilateral salphingoophorectomy (removal of uterine tubes & ovaries)

- 7.1. List the layers that have to be incised to enter into the pelvic cavity by pfannenstiell incision (transverse suprapubic approach) (10 Marks)
- 7.2. Describe the gross anatomy and the relations of the uterus (40 Marks)
- 7.3. List the ligaments and peritoneal folds and their attachments that have to be identified and incised during surgery (30 Marks)
- 7.4. Describe origin, course and important relations of the uterine artery (20 Marks)

8. A 32 year old male farmer came with the complaint of prominent tortuous veins in the medial aspect of the right thigh and right leg for last 2 years which was aggravated by long duration of standing position. A swelling was noted below the crease of the inguinal region.

- 8.1. Write the probable clinical condition in this patient (10 Marks)
- 8.2. Name the structure likely to be affected in the above condition (10 Marks)
- 8.3. Write the formation and course of the affected structure (30 Marks)
- 8.4. Enumerate the anatomical basis of prominent tortuous veins of the lower limb (30 Marks)
- 8.5. Describe the microscopic appearance of a normal vein (20 Marks)

### PART C

9. A 40 year old man was admitted to the hospital with intermittent pain in both flanks and blood clots in urine. He was diagnosed to have polycystic kidney.
- 9.1. Write the embryological explanation of multiple cyst formation in the above condition (20 Marks)
  - 9.2. Draw and label a diagram of normal nephron (25 Marks)
  - 9.3. Write briefly the development of metanephros kidney (25 Marks)
  - 9.4. Briefly describe the arterial blood supply within the kidney (30 Marks)
10. A 50 year old woman was admitted with dysphagia (difficulty in swallowing) for more than one month. Oesophagoscopy was performed. A biopsy taken from the lesion in the lower third of oesophagus confirmed the diagnosis of malignancy.
- 10.1. Write the extent of oesophagus in relation to vertebrae (05 Marks)
  - 10.2. Write the length between the incisor teeth and cardio-oesophageal junction (05 Marks)
  - 10.3. Write the sites where constrictions are encountered in oesophagus during oesophagoscopy in a healthy person (20 Marks)
  - 10.4. Enumerate two congenital vascular anomalies which may cause dysphagia (10 Marks)
  - 10.5. Describe briefly the development of oesophagus and mention two abnormalities (30 Marks)
  - 10.6. Write briefly the light microscopic appearance of lower third of oesophagus (30 Marks)

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