



FACULTY OF MEDICINE, UNIVERSITY OF RUHUNA
SECOND EXAMINATION FOR MEDICAL DEGREES MARCH 2011

ANATOMY PAPER II

THREE HOURS

MONDAY 14TH MARCH 2011

Answer all FIVE Questions

Answer EACH QUESTION in a SEPARATE BOOK

Use diagrams where necessary

- 1.1 A patient who had undergone a thyroidectomy has complained of hoarseness following the surgery.
 - 1.1.1 State the nerve which had been damaged. (10 marks)
 - 1.1.2 How would you explain the anatomical basis of the development of hoarseness in this patient? (30 marks)
- 1.2 Describe the anatomical relations of the thyroid gland. (25 marks)
- 1.3 Describe the light microscopic appearance of the thyroid gland. (15 marks)
- 1.4 List the derivatives of the pharyngeal arches. (20 marks)
2. A 50 year-old man was admitted to the hospital with a diagnosis of pericarditis. A chest X-ray revealed a large pericardial effusion causing cardiac tamponade. It was decided to perform a pericardiocentesis.
 - 2.1 State two sites that can be used to reach the pericardial sac in order to perform the above procedure. (20 marks)
 - 2.2 What is cardiac tamponade? (15 marks)
 - 2.3 Describe the development of the pericardial cavity. (30 marks)
 - 2.4. State the surgical significance of the transverse pericardial sinus. (15 marks)
 - 2.5 Describe the light microscopic appearance of a large arteriole. (20 marks)
3. A previously healthy person presented to the hospital with complaints of loss of hearing in the right ear following a road traffic accident. He was complaining of ringing in the right ear and inability to close the right eye. On examination the following signs were detected: Inability to wrinkle the forehead on the right side, deviation of the angle of the mouth to the left side when talking, loss of right nasolabial fold and loss of taste sensation in the anterior 2/3 of the tongue. Using your knowledge on neuroanatomy answer the following.
 - 3.1 State the neurological structure/s damaged in this patient, giving the approximate site of the lesion. (15 marks)
 - 3.2 List 3 other features you would expect to see in this patient. (15 marks)
 - 3.3 Describe in detail the anatomical basis for the development of the features underlined above. (60 marks)
 - 3.4 Enumerate the extracranial branches of the main structure damaged in this patient. (10 marks)

4. A 35 year-old carpenter fallen from a height was brought to a surgical casualty ward with pain and swelling in the right thigh. Right lower limb appeared markedly shorter, adducted and medially rotated.
- 4.1 What is the possible site of fracture of the femur? (10 marks)
 - 4.2 Explain the anatomical basis for the shortening of the right lower limb. (30 marks)
 - 4.3 State how would you confirm that there is a real shortening in the lower limb. (15 marks)
 - 4.4 State 3 sites where you would feel for arterial pulse to assess the distal circulation in this patient. (15 marks)
 - 4.5 Briefly describe the histological appearance of the articular cartilage at the lower end of the femur. (15 marks)
 - 4.6 Discuss the clinical significance of ossification at the lower end of femur. (15 marks)
5. A newborn baby was admitted to a paediatric ward with a history of repeated episodes of vomiting after feeding. The baby was dehydrated and there was fullness in the epigastrium. The baby was diagnosed as having duodenal obstruction and the Paediatric Surgeon who operated on him found that there was **duodenal atresia associated with annular pancreas**.
- 5.1 Using your knowledge in Anatomy explain the embryological basis of annular pancreas. (30 marks)
 - 5.2 The Paediatric Surgeon who operated on this baby used a **transverse incision** below the right costal margin.
 - 5.2.1 List the layers of the anterior abdominal wall encountered by the surgeon while making this incision. (10 marks)
 - 5.2.2 Explain the reasons why a transverse incision was preferred to a vertical incision by the surgeon. (15 marks)
 - 5.3 Describe the gross anatomical relations of the duodenum. (30 marks)
 - 5.4 Describe the light microscopic appearance of pancreas. (15 marks)