



FACULTY OF MEDICINE, UNIVERSITY OF RUHUNA  
SECOND EXAMINATION FOR MEDICAL DEGREES NOVEMBER 2009.

ANATOMY PAPER II

THREE HOURS

MONDAY 30<sup>TH</sup> NOVEMBER 2009

Answer all FIVE Questions

Answer EACH QUESTION in a SEPARATE BOOK

Use diagrams where necessary

1. A man of 20 years had a fracture of the right humerus following a blow to his right arm. A doctor examining him elicited the following signs in the right upper limb. Inability extend the hand at the wrist, poor grip in the hand, sensory loss over the lateral side on the dorsum of the hand and roots of the lateral 3 ½ fingers.

- 1.1 Name the structure and the site at which it has got damaged by the fracture to produce the above signs. (15 marks)
- 1.2 State the anatomical basis for the occurrence of the signs in this patient. (45 marks)
- 1.3 Using knowledge of anatomy how would a surgeon help this patient to have a reasonably good functional hand? (10 marks)
- 1.4 Draw and label a cross section of a peripheral nerve. (15 marks)
- 1.5 How can the growing end of a long bone can be determined by inspecting the bone. (15 marks)

2. A 53 year old patient with a history of a stab injury to the right side of his lower thoracic vertebral column was found to have the following features, spastic paralysis of right lower limb, absent pain and temperature sensations on the left side 2-3 segments below the level of the lesion and absent vibration, tactile localization and position sense on the right side below the level of the lesion. Using your knowledge on neuroanatomy, answer the following.

- 2.1 Name the damaged nerve tracts following the above injury. (10 marks)
- 2.2 State the anatomical basis for the clinical features underlined above. (60 marks)
- 2.3 Name four other features of extrapyramidal tract lesions you would expect to see in this patient. (10 marks)
- 2.4 State briefly the blood supply of the spinal cord. (20 marks)

3. 3.1 Write short notes on
  - 3.1.1 classification of joints. (30 marks)
  - 3.1.2 derivatives of the second pharyngeal arch. (10 marks)
  - 3.1.3 branches of the external carotid artery. (10 marks)
- 3.2 Describe the temporomandibular joint. (50 marks)

4. A male patient was admitted with a history of blunt injury to the anterior abdomen and was diagnosed as having multiple intra-abdominal organ damage. The surgeon was compelled to open up the abdomen by a midline incision.

- 4.1 List three possible organs that could have been damaged. (15 marks)
- 4.2 List four reasons in selecting the midline incision. (20 marks)
- 4.3 Describe briefly the blood supply to one of the organs mentioned in 4.1. (50 marks)
- 4.4 List the tissue layers the surgeon had to incise in pening into the peritoneal cavity. (15 marks)

5. An eight week pregnant woman was admitted to the hospital with severe lower abdominal pain. On examination there was tenderness and guarding over the lower abdomen. An urgent ultrasound scan was performed and a diagnosis of a ruptured ectopic pregnancy was made.

- 5.1 What is an ectopic pregnancy? (15 marks)
- 5.2 Describe the anatomical basis for tenderness and guarding in this patient. (15 marks)
- 5.3 Describe the blood supply of the uterus and the fallopian tube (25 marks)
- 5.4 Describe the anatomical relations of the fallopian tube in the pelvic cavity. (25 marks)
- 5.5 Describe briefly the light microscopic appearance of a cross section of the fallopian tube at the ampullary region. (20 marks)