



FACULTY OF MEDICINE, UNIVERSITY OF RUHUNA
SECOND EXAMINATION FOR MEDICAL DEGREES – JULY 2016
ANATOMY PAPER II

THREE HOURS

MONDAY 18th JULY 2016

Answer all FIVE questions

Answer EACH QUESTION in a SEPARATE BOOK

Use diagrams wherever necessary

01. A 70 year-old man was admitted to a hospital with sudden onset severe dizziness, hiccups, and vomiting. He also complained of hot, painful sensation in the right side of the face. On examination, he was found to have ptosis and miosis of the right eye, deviation of the tongue to the right side when protruded and soft palate was drawn up towards the left side. There was impairment of pain and temperature sensations in the trunk and extremities on the left side. Doctors suspect vascular ischaemia as the underline cause for the illness.
- 1.1.1 State the syndrome compatible with above signs and symptoms (10 marks)
 - 1.1.2 List the nuclei and structures involved in this lesion. (15 marks)
 - 1.2 Which artery is likely to be affected in this patient? (10 marks)
 - 1.3 Briefly describe the circle of Willis. (25 marks)
 - 1.4 What are the different morphological types of neurons found in the nervous system? Indicate one site for each type where they can be found (20 marks)
 - 1.5 Briefly describe the embryological development of hind brain. (20 marks)
02. A 33 year-old woman came to the surgical clinic one month after left side mastectomy and removal of the axillary lymph nodes with a complaint of difficulty in combing her hair with her left hand. On examination she was found to have weakness of left shoulder abduction above the horizontal plane, sensory loss of the floor of the axilla and medial side of the upper one third of the left arm and winging of the medial border and inferior angle of the left scapula when pushing against a wall.
- 2.1 State the anatomical basis for the clinical features underlined above. (25 marks)
 - 2.2 Describe the boundaries of the breast. (15 marks)
 - 2.3 State the lymph node groups in the axilla and their locations. (10 marks)
 - 2.4 List the shoulder abductor muscles. (10 marks)
 - 2.5 Describe briefly the light microscopic appearance of a lactating breast. (20 marks)
 - 2.6 State briefly the embryological development of the breast. (20 marks)

03. A 59 year-old man was admitted to a surgical casualty with bleeding from an oral carcinoma eroding into the right cheek. The bleeding was stopped by ligation of the external carotid artery in the carotid triangle.
- 3.1. State two anatomical features that help to differentiate external carotid artery from the internal carotid artery within the carotid triangle. (10 marks)
 - 3.2. List the branches of the external carotid artery. (10 marks)
 - 3.3. Describe the anterior triangle of the neck. (40 marks)
 - 3.4. Describe the embryological development of the cheek and lips. (20 marks)
 - 3.5. Describe the epithelia which line the cheek. (20 marks)
04. A 48 year old female was admitted to a surgical casualty with a complaint of colicky abdominal pain, vomiting and constipation of two days duration. On examination her abdomen was distended and peristalsis was visible through the abdominal wall. An abdominal X-ray revealed a distended small bowel suggestive of a small bowel obstruction.
- 4.1. State anatomical features that would help to differentiate distended small bowel from distended large bowel in an abdominal X-ray. (15 marks)
 - 4.2. Describe the peritoneal attachments of the small intestine. (10 marks)
 - 4.3. State the anatomical differences between the small bowel and the colon. (35 marks)
 - 4.4. Describe the light microscopic appearance of the colon. (20 marks)
 - 4.5. Describe the embryological basis for vitelline duct abnormalities. (20 marks)
05. A 25 year old married woman was admitted with a complaint of severe left iliac fossa pain together with body weakness and faintishness. She had a period of amenorrhea of six weeks duration. On examination she was severely pale and had tachycardia, low blood pressure and a tender lower abdomen. Urgent ultra sound examination of the abdomen revealed a ruptured ectopic pregnancy.
- 5.1. List the normal sites of implantation in the uterus. (10 marks)
 - 5.2. Describe the blood supply of the uterus. (20 marks)
 - 5.3. Explain the anatomical relations of the uterus. (30 marks)
 - 5.4. Describe briefly the embryological development of the uterus. (20 marks)
 - 5.5. Draw a labeled diagram of light microscopic appearance of a fallopian tube. (20 marks)