



FACULTY OF MEDICINE, UNIVERSITY OF RUHUNA
SECOND EXAMINATION FOR MEDICAL DEGREES-OCTOBER 2013

ANATOMY PAPER II

THREE HOURS

MONDAY 7th OCTOBER 2013

Answer all FIVE Questions

Answer EACH QUESTION in a SEPARATE BOOK

Use diagrams where necessary

01. A 70 year-old male patient visited his doctor with a complaint of chronic ulcer on the tip of the tongue. On examination, a small hard swelling was palpated in the region of the submental triangle. It was not fixed to the mandible.
- 1.1 Name the hard swelling that was palpated in the above patient. (05 marks)
 - 1.2 Describe the gross anatomy of the submental triangle. (25 marks)
 - 1.3 Describe the innervation of the tip of the tongue. (20 marks)
 - 1.4 Describe the light microscopic appearance of a lymph node. (25 marks)
 - 1.5 Describe in brief the development of the tongue. (25 marks)
02. A 60 year-old male patient was admitted to the hospital with a complaint of chest pain. Investigations were performed including an angiogram which indicated a nearly complete blockage of the anterior interventricular artery.
- 2.1 State the origin and course of the anterior interventricular artery. (10 marks)
 - 2.2 State the areas of the heart that are supplied by the anterior interventricular artery. (25 marks)
 - 2.3 State why coronary arteries are termed as functional end arteries. (15 marks)
 - 2.4 Describe the development of the interventricular septum. (25 marks)
 - 2.5 Describe the microscopic appearance of cardiac muscle. (25 marks)
03. A 45 year-old male patient was admitted to a surgical casualty ward with a complaint of right sided loin pain. Examination of the abdomen was performed followed by an ultrasound scan of the abdomen. The ultrasound scan revealed a calculus in the right ureter.
- 3.1 State the anatomical narrowing sites of the ureter where calculi are likely to get lodged. (10 marks)
 - 3.2 Briefly outline the course of the right ureter. (20 marks)
 - 3.3 Describe the gross anatomy of a longitudinal section of the kidney. (20 marks)
 - 3.4 Describe in brief, the embryological basis for
 - a) polycystic kidney (15 marks)
 - b) pelvic kidney (10 marks)
 - 3.5 Describe the light microscopic appearance of the ureter. (25 marks)

04. A 50 year-old male patient visited his physician with a complaint of resting tremors in his hands. His condition has progressively worsened over the last six months. On examination, it was found that he had mask-like facies, shuffling gait and loss of swinging of arms when walking indicating a neurodegenerative disease. Using your knowledge in neuroanatomy, answer the following questions.
- 4.1 State the specific parts of the cerebral hemispheres that were affected in the above patient. (10 marks)
 - 4.2 Using a diagram of a coronal section of cerebral hemispheres, briefly describe the sites of location of the parts you have mentioned in 4.1. (30 marks)
 - 4.3 Describe in brief, the afferent and efferent connections of the parts you have mentioned in 4.1. (30 marks)
 - 4.4 List three other clinical features that you would expect to see in the above patient. (15 marks)
 - 4.5 Describe in brief, the embryological basis for anencephaly. (15 marks)
05. A 40 year-old male was admitted to a surgical casualty ward with a complaint of inability to walk following a train accident. During the accident his right knee had suddenly hit against the opposite seat. He had a severe pain at the right hip. On examination it was found that his right hip joint was dislocated.
- 5.1 State the anatomical changes that you would expect to see in the dislocated right hip compared to the left side. (30 marks)
 - 5.2 Describe the factors that help to stabilize the hip joint in a normal person. (25 marks)
 - 5.3 List the conditions that can give rise to a positive Trendelenburg test. (10 marks)
 - 5.4 List the derivatives of the paraxial mesoderm. (15 marks)
 - 5.5 Describe the light microscopic appearance of hyaline cartilage. (20 marks)