Original

FACULTY OF MEDICINE, UNIVERSITY OF RUHUNA
SECOND EXAMINAITON FOR MEDICAL DEGREES JULY 2013

ANATOMY PAPER II

MONDAY 1ST JULY 2013

THREE HOURS
Answer all FIVE Questions
Answer EACH QUESTION in a SEPARATE BOOK
Use diagrams where necessary

01. A 60 year-old male was admitted to the hospital with a complain of water coming through the nose while he was drinking fluids. He had a recent history of extraction of the first upper molar tooth.

1.1 Explain the anatomical basis for the above complaint by this patient. **(15 marks)**
1.2 List the paranasal sinuses present in an adult. **(05 marks)**
1.3 Describe the gross anatomy of the lateral wall of the nasal cavity including openings of the paranasal sinuses. **(30 marks)**
1.4 Describe the light microscopic appearance of the epithelium lining the paranasal sinuses. **(25 marks)**
1.5 Describe the development of the palate. **(25 marks)**

02. A 52 year-old male was admitted to an emergency unit following a road traffic accident. He was diagnosed as having a fracture of the right fourth rib and haemothorax on the same side. It was decided to perform a needle thoracostomy using the lateral approach.

2.1 State the surface markings of the right pleura and the right lung. **(20 marks)**
2.2 List the layers that the needle will pass through during the thoracostomy. **(10 marks)**
2.3 Describe the joints of a typical rib. **(20 marks)**
2.4 Describe the light microscopic appearance of a section of a rib. **(25 marks)**
2.5 Describe the embryological development of the plural cavities. **(25 marks)**

03. A 70 year-old male was admitted to a surgical ward with complains of pain over the right hypochondrium over a one week duration and yellow discolouration of the sclera. Examination revealed a palpable rounded structure just below the right costal margin at the tip of the ninth costal cartilage. He was diagnosed to have obstructive jaundice.

3.1 Name the structure that was palpated at the tip of the ninth costal cartilage on the right side. **(10 marks)**
3.2 Name the transverse anatomical plane that passes across the tips of the ninth costal cartilages and the structures crossed by it. **(20 marks)**
3.3 Briefly outline the blood supply to the structure mentioned in 3.1. **(20 marks)**
3.4 Describe the light microscopic appearance of the structure mentioned in 3.1. **(25 marks)**
3.5 Describe the embryological development of the structure mentioned in 3.1. **(25 marks)**

4. A 60 year-old patient with a long history of hypertension was admitted to the hospital with sudden onset of paralysis of the left side of his body. On examination, Babinski sign was positive and sensations of two point discrimination, vibration and proprioception was absent on the left side. Further, his protruded tongue deviated to the right side. Investigations revealed a thrombosis of one of the major blood vessels that supplies the brainstem. Answer the following questions using your knowledge in neuroanatomy.

4.1 Name the different parts of the brainstem. **(05 marks)**

4.2 State the part of the brainstem that has suffered due to the vascular injury observed in this patient. **(10 marks)**

4.3 State the nerve tracts that were affected due to the vascular injury observed in this patient. **(20 marks)**

4.4 State the anatomical basis for the 'deviation of the protruded tongue to the right side' observed in this patient. **(20 marks)**

4.5 Describe the blood supply of the cerebral hemispheres. **(25 marks)**

4.6 Describe the light microscopic appearance of a muscular artery. **(20 marks)**

5. A 45 year-old male who had fallen off from a motor cycle was admitted to a surgical ward. He had fallen on his right shoulder and was complaining of inability to wear a shirt as he was unable to raise his right arm. On examination he was found to have loss of abduction of the right shoulder. Further, his right arm was hanging by the side, adducted and medially rotated while his right forearm was extended and pronated.

5.1 State the site of the lesion in this patient. **(15 marks)**

5.2 Explain the anatomical basis for the deformities of the right upper limb observed in this patient. **(30 marks)**

5.3 Will there be a sensory loss in his right upper limb? Explain. **(10 marks)**

5.4 Write a brief account on the embryological development of the limbs. **(25 marks)**

5.5 Describe the light microscopic appearance of a skeletal muscle. **(20 marks)**