



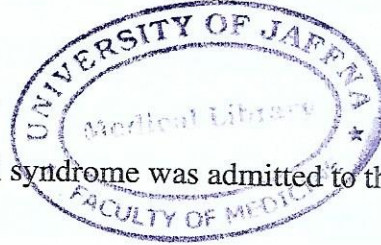
UNIVERSITY OF JAFFNA, SRI LANKA
FIRST EXAMINATION FOR MEDICAL DEGREES -APRIL 2024
ACADEMIC YEAR 2021/2022
ANATOMY PAPER II

Date: 29.04.2024

Answer All TEN Questions

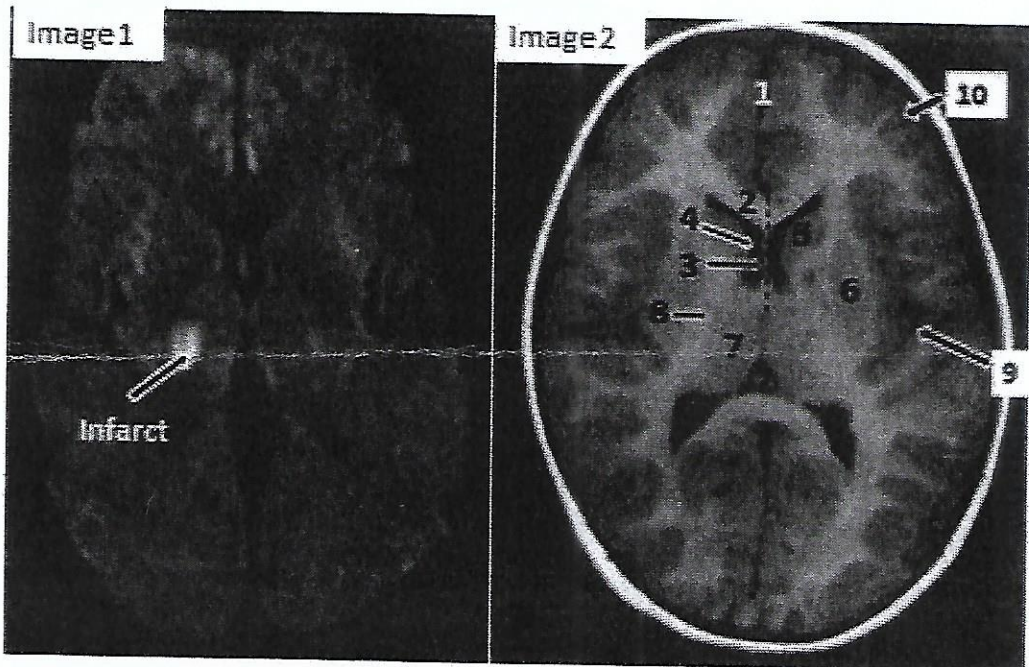
Answer EACH QUESTION in a separate answer book

Duration: 3 Hours



- 1 A 56 year old lady with a diagnosis of carpal tunnel syndrome was admitted to the hospital for carpal tunnel decompression
 - 1.1 Mention the nerve compressed in carpal tunnel syndrome 10 Marks
 - 1.1 Describe carpal tunnel with a line diagram 20 Marks
 - 1.2 Give the area of sensory impairment due to compression of the above mentioned nerve in 1.1 10 Marks
 - 1.3 Outline the motor test that can be performed to confirm the nerve compression at this site 20 Marks
 - 1.4 In long term compression of the above-mentioned nerve, where do you look for muscle wasting? 10 Marks
 - 1.5 Write the surface mark of the above nerve within the carpal tunnel 10 Marks
 - 1.6 In carpal tunnel decompression, surgeon will divide the flexor retinaculum vertically in the midline. Indicate the extent of skin incision with anatomical reason. 20 Marks

2 A 56 year old man with hypertension developed numbness of the left side of her face, decreased sensation in her left arm and leg. CT scan revealed lacunar infarct in the thalamus (Image 1). Image 2 is a CT scan of normal brain

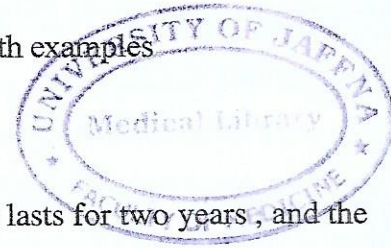


- 2.1 Mention the plane of the images 10 Marks
- 2.2 Identify the structures 1 – 10 in image 2 20 Marks

- 2.3 Write the affected side of the thalamus with reason 10 M.
- 2.4 Write the main artery that supplies the thalamus 10 Mark
- 2.5 What are medial & lateral geniculate bodies? 10 Marks
- 2.6 Mention the defect produced after destruction of geniculate bodies on one side 10 Marks
- 2.6 Discuss on neuroanatomical basis the difference in the principal pattern of sensory impairment of face and limbs in mid-brainstem lesion and spinal cord lesion 30 Marks
3. A 40-year-old man underwent pyelolithotomy (stone removal from pelvis of the kidney).
- 3.1 Surgeon made an incision through the posterior subcostal region and divided up to lumbar fascia. From here what layers need to be incised to enter the renal pelvis 15 Marks
- 3.2 List the arrangement of the renal hilar structures from posterior to anterior 15 Marks
- 3.3 List three anatomical differences of right and left adrenal gland 15 Marks
- 3.4 Write on blood supply of the ureter 15 Marks
- 3.5 Briefly describe the anterior relations of right and left kidney 40 Marks
4. A 60-year-old male had undergone open right inguinal hernia repair. During the surgery, it was observed that the hernial sac came through the inguinal triangle (of Hesselbach)
- 4.1 Mention abdominal wall structures that will be incised during the above surgery until the surgeon reaches the inguinal canal 15 Marks
- 4.2 Mention the structures that bound the inguinal triangle (Hesselbach's triangle) 15 Marks
- 4.3 What is the likely type of inguinal hernia present in this patient? 10 Marks
- 4.4 Give reasons for your answer (mentioned above in 4.3) 20 Marks
- 4.5 List the structures that form the anterior wall of the inguinal canal 10 Marks
- 4.6 List the arteries and nerves that are constituents of the spermatic cord in a healthy person 20 Marks
- 4.7 After the surgery, the above-mentioned man complained of numbness in the ipsilateral lower abdomen and upper thigh. What could be the reason for the numbness 10 Marks
- 5.
- 5.1 A 59-year-old male was admitted to the emergency room with a stab wound at the left third intercostal space close to the sternum. The pericardial window was created to relieve the haemopericardium (blood within the pericardial space).
- 5.1.1 Mention the relations of the fibrous pericardium 20 Marks
- 5.1.2 What are the parts of the heart likely injured in the above man 10 Marks
- 5.1.3 Outline the arterial blood supply of the pericardium 15 Marks
- 5.1.4 List the branches that may arise from the right coronary artery 25 Marks

5.2

- 5.2.1 Outline the term "acrocentric" chromosome with examples 15 Marks
- 5.2.2 List three facial features of Down syndrome 15 Marks



6. A 41-year-old female presents with an anterior neck lump that lasts for two years, and the lump moves up and down while swallowing
- 6.1 What anatomical structure most likely got affected in this patient 10 marks
- 6.2 Name the subdivisions of the anterior triangle of the neck and list major three contents in each triangle 30 marks
- 6.3 Explain the anatomical reason for the movement of the lump up and down during swallowing in the above subject 30 marks
- 6.4 Enumerate the four different layers of the deep cervical fascia in the neck 10 marks
- 6.5 Write short notes on parathyroid gland 20 Marks
- 7.
- 7.1 A 6 year old child while eating a chocolate had severe coughing and difficulty in breathing
- 7.1.1 Write the possible side of the bronchus, the foreign material may lodge with reason 10 Marks
- 7.1.2 Briefly describe five structural features in the respiratory system for its function effectively 20 Marks
- 7.1.3 Write notes on microscopic anatomy of trachea 15 Marks
- 7.1.4 List four abnormalities during the development of respiratory system 20 Marks
- 7.2
- 7.2.1 Write the structures forming the diaphragm during its development 20 Marks
- 7.2.2 List three abnormalities during the development of diaphragm 15 Marks
8. A 49-year-old woman underwent surgery to remove her uterus (total abdominal hysterectomy) for her heavy menstruation. During the surgery, her left ureter was accidentally ligated
- 8.1 Mention the layers cut at the lower abdomen to enter the pelvic cavity for a total abdominal hysterectomy 15 marks
- 8.2 Describe the course of the pelvic ureter 40 marks
- 8.3 During the hysterectomy mention the ligaments which should be released 30 marks
- 8.4 List three possible sites of ureter damage during the total abdominal hysterectomy 15 marks

9. A 35-year-old motorbike rider met an accident and injured his left lower leg. On admission, he was in severe pain and swelling in the left leg. He was diagnosed with a fractured tibia and fibula, which is a closed injury. Further assessment revealed he has a cold left lower leg with loss of sensation over the 1st cleft of the foot
- 9.1 Name the clinical condition of the above patient 10 Marks
- 9.2 List the names of the lower limb compartments 20 Marks
- 9.3 Name the individual muscles of these compartments 40 Marks
- 9.4 Describe the nerve supply of these compartments 30 Marks
10. A 40-year-old slightly obese female presents to the emergency room with colicky pain in the right upper quadrant of her abdomen with some discomfort in the right shoulder. The surgeon suspects that the patient is suffering from an acute cholecystitis (Infection of the gallbladder), and an ultrasound scan reveals a large stone lodged within the Hartmann pouch. The patient is prepared for a laparoscopic cholecystectomy
- 10.1 Name the three parts of the gallbladder that would be visualised on ultrasound 10 Marks
- 10.2 Outline the Extrahepatic biliary apparatus with a diagram 40 Marks
- 10.3 Mention the area of the abdomen where the fundus of the gallbladder could be palpated during the abdominal examination 10 Marks
- 10.4 Mention the reason for the right shoulder discomfort 10 Marks
- 10.5 During a laparoscopic cholecystectomy, the surgeon approached the cystohepatic triangle (of Calot). Define the borders of the triangle 20 Marks
- 10.6 Name the two structures that are ligated during cholecystectomy 10 Marks