

UNIVERSITY OF JAFFNA, SRI LANKA
FIRST EXAMINATION FOR MEDICAL DEGREES (1st) - MAY 2019
ANATOMY – PAPER II

Date : 22.05.2019

Time: Three hours

Answer all TEN questions

Answer EACH PART in a separate answer book

PART A

1. A 9 year old male child presents with midline swelling in the anterior aspect of the neck region. His mother noticed the swelling moved with swallowing. It was diagnosed as thyroglossal cyst
 - 1.1 Write how the above condition arises? (15 Marks)
 - 1.2 Briefly describe the development of the thyroid gland and list two other abnormalities (35 Marks)
 - 1.3 Write the blood supply of the thyroid gland (25 Marks)
 - 1.4 Describe the microscopic anatomy of the thyroid gland (25 Marks)

2. Regarding the female reproductive system
 - 2.1 Draw and label the light microscopic appearance of adult ovary (35 Marks)
 - 2.2 Describe briefly the structural adaptations of fallopian tube to perform its function effectively (30 Marks)
 - 2.3 List three congenital abnormalities during the development of uterus and vagina and briefly describe the embryological basis of these abnormalities (35 Marks)

PART B

3. A male patient suspected to have rectal carcinoma underwent colonoscopy.
 - 3.1 Describe the internal view of the normal rectum (15 Marks)
 - 3.2 Describe the gross anatomical features of the rectum (30 Marks)
 - 3.3 Explain the relationship of rectum where the malignancy can locally invade (20 Marks)
 - 3.4 Distant metastasis can occur through venous and lymphatic drainage
 - 3.4.1 Outline the venous return of the rectum (10 Marks)
 - 3.4.2 Outline the lymphatic drainage of the rectum (10 Marks)
 - 3.5 Mention the mesorectum and its clinical importance (15 Marks)

4. A 62 year old woman with a history of hypertension presented with sudden onset of weakness of the right side. On examination, she had a global aphasia, left gaze preference and right hemiplegia with arm >leg. A diagnosis made as stroke with CT brain and angiography.
- 4.1 Draw and label circle of Willis (20 Marks)
 - 4.2 Mention the vessel probably occluded in this patient (10 Marks)
 - 4.3 With a line diagram show the different cortical areas which control the mechanisms of the body within this arterial territory (25 Marks)
 - 4.4 Explain the anatomical basis of the followings which were mentioned below
 - 4.4.1 Right hemiplegia – arm >leg (15 Marks)
 - 4.4.2 Left gaze preference (15 Marks)
 - 4.4.3 Global aphasia (15 Marks)
5. A 9 year old girl presented to the emergency department with right elbow pain and swelling after a fall. On examination her elbow was swollen, tender with limited movements. A plain radiography revealed medial epicondyle fracture. Neurological examination revealed the features of ulnar nerve palsy.
- 5.1 Draw a line diagram to show the important neurovascular structures related to elbow region (20 Marks)
 - 5.2 Outline the origin, course and termination of the ulnar nerve (25 Marks)
 - 5.3 List the muscles supplied by the ulnar nerve in the forearm and hand & their actions (25 Marks)
 - 5.4 Mention where do you look for sensory impairment in ulnar nerve palsy in this patient (10 Marks)
 - 5.5 Explain on anatomical basis of two (2) tests performed to assess the motor weakness of the ulnar nerve (20 Marks)

PART C

6. A 65 year old male patient presented with a swelling on his left inguinal region. The clinical diagnosis was made as inguinal hernia
- 6.1 How do you anatomically differentiate the above abnormality from femoral hernia? (10 Marks)
 - 6.2 What are the types of the inguinal hernia? (10 Marks)
 - 6.3 How will you anatomically differentiate the types mentioned in 6.2? (20 Marks)
 - 6.4 Write the structures that form the boundaries of the inguinal canal precisely (30 Marks)
 - 6.5 Outline the arrangement of rectus sheath below the level of arcuate line (using labeled diagram only) (30 Marks)

7. A 58 year old male presented with metastatic cancer involving right medial (right anterior) sector of the liver. An affected segment was removed through surgical procedure comprising upper midline abdominal incision
- 7.1 Outline the surface marking of liver (30 Marks)
 - 7.2 List two advantages of midline surgical incision (10 Marks)
 - 7.3 Outline the attachment of liver to the anterior abdominal wall (20 Marks)
 - 7.4 Name the segments present in the right medial sector of the liver (10 Marks)
 - 7.5 Write notes on main types of genes associated with cancer (30 Marks)
- 8.
- 8.1 Define the boundaries of superior mediastinum (20 Marks)
 - 8.2 Write notes on gross anatomy of azygos vein (40 Marks)
 - 8.3 Outline the arterial blood supply to intercostal space (40 Marks)

PART D

9. A 55 year old male was admitted at the emergency ward in the collapsed stage. His left femoral vein was selected for blood collection.
- 9.1 Write the surface marking of the femoral vein (15 Marks)
 - 9.2 Name the structure lie at the midpoint of the inguinal ligament (10 Marks)
 - 9.3 Write short notes on the femoral sheath (30 Marks)
 - 9.4 Enumerate the structures forming the boundary of femoral ring (20 Marks)
 - 9.5 List the branches of femoral nerve in the femoral triangle (25 Marks)
10. A 36 year old woman was complaining of pain and swelling in left side of the submandibular region. It was diagnosed as sialadenitis (infection of submandibular gland).
- 10.1 Write the course of submandibular duct and its relation with lingual nerve (25 Marks)
 - 10.2 List the structures lying on the hyoglossus muscle (25 Marks)
 - 10.3 Write short notes on the superficial surface of submandibular gland (20 Marks)
 - 10.4 Name the structures at risk during the removal of submandibular gland (10 Marks)
 - 10.5 Write the course of facial artery in the submandibular region (20 Marks)
