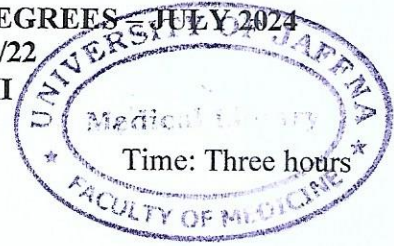




UNIVERSITY OF JAFFNA, SRILANKA
FIRST EXAMINATION FOR MEDICAL DEGREES - JULY 2024
ACADEMIC YEAR 2021/22
ANATOMY - PAPER II



Date :31.07.2024
Answer All TEN Questions
Answer EACH QUESTION in a separate answer book.

1. A 57-year-old male patient underwent a surgical repair for his bleeding ulcer in the posterior wall of the first part of the duodenum.
 - 1.1 In a healthy person
 - 1.1.1 Mention the length of the first part of the duodenum. 10 Marks
 - 1.1.2 Mention the vertebral level of the first part of the duodenum. 10 Marks
 - 1.2 What is the most likely artery bleeds in this patient? 10 Marks
 - 1.3 Give reasons for your answer given in 1.2. 10 Marks
 - 1.4 Write the organs/structures supplied by the artery mentioned in 1.2. 20 Marks
 - 1.5 Outline the anatomical relations of the first part of the duodenum 40 Marks

2. A 58-year-old man presents to the emergency unit with difficulty in breathing and severe pain in the chest. An ultrasound scan revealed a moderate amount of fluid in the pleural cavity. Pleural drainage is performed by passing a needle along the lower border of the fourth intercostal space. A clear fluid was collected.
 - 2.1
 - 2.1.1 Name the likely clinical condition. 10 Marks
 - 2.1.2 What is the likely reason for this patient's difficulty breathing? 10 Marks
 - 2.1.3 Explain the anatomical basis of inserting the needle into the pleural space through the lower border of the intercostal space. 20 Marks
 - 2.1.4 List the muscles in the intercostal space in order of superficial to deep. 20 Marks
 - 2.1.5 Mention the nerve supply of the costovertebral pleura. 10 Marks
 - 2.2 Outline the causes of Down syndrome and the importance of knowing the causes of this genetic disease/disorder. 30 Marks

3. Regarding the adult female breast.
 - 3.1 Write the structures on which the breast rests. 15 Marks
 - 3.2 Mention the anatomical extent of the breast. 10 Marks
 - 3.3 Mention the gross anatomy and clinical significance of the breast. 30 Marks
 - 3.4 List the arteries that supply the breast. 20 Marks
 - 3.5 Write briefly about the light microscopic structure of the breast. 15 Marks
 - 3.6 Briefly outline the development of the breast. 10 Marks

4. A suspected meningitis patient undergoes diagnostic lumbar puncture. The image (Figure 1) below shows a line diagram of the procedure.

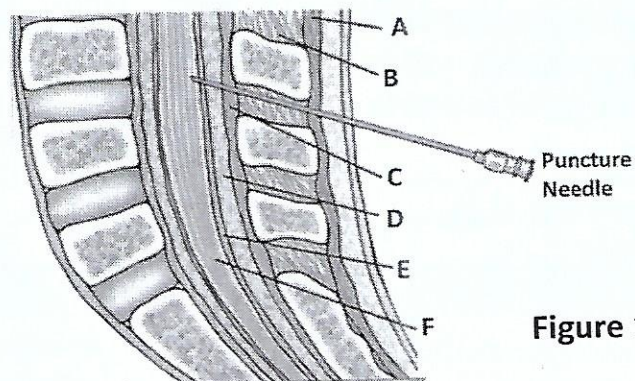


Figure 1

- 4.1 Mention the view/plane of the above diagram. 10 Marks
- 4.2 Identify the ligaments A, B, and C. 15 Marks
- 4.3
- 4.3.1 Mention the common vertebral level for the above procedure. 10 Marks
- 4.3.2 Mention the surface landmark that is used to identify the above site in a patient 10 Marks
- 4.3.3 Describe the anatomical basis for choosing the site mentioned in 4.3.1 for the lumbar puncture 25 marks
- 4.4 Write one important content of the space indicated by the letter D 05 Marks
- 4.5 Mention the main difference between the structure E in the spinal cord and the brain. 10 Marks
- 4.6 Write the contents of space F. 15 Marks
- 5 A 55-year-old menopausal woman underwent axillary lymph node dissection/clearance during breast cancer surgery. Her sentinel lymph node biopsy, which was done earlier, is positive for cancer cells.
- 5.1 List the major contents of the axilla 20 Marks
- 5.2 Describe three pathological/surgical groups of axillary lymph nodes 20 Marks
- 5.3 What do you understand about the term "sentinel lymph node?" 10 Marks
- 5.4 Name two major lymph trunks that ultimately drain the body 10 Marks
- 5.5 Explain the anatomical basis of the following findings after axillary lymph node clearance surgery.
- 5.5.1 Lymph oedema of the upper limb 15 Marks
- 5.5.2 Numbness of armpit 15 Marks
- 5.6 Name two (2) other nerves (other than those mentioned in 5.5.2) that could be injured during axillary clearance surgery. 10 Marks

6. A 23-year-old female university student presents with abdominal pain for one day. She had Initial pain at “Region 5”, and then pain shifted to “Region 7” (Figure 2). Her diagnosis is acute appendicitis.

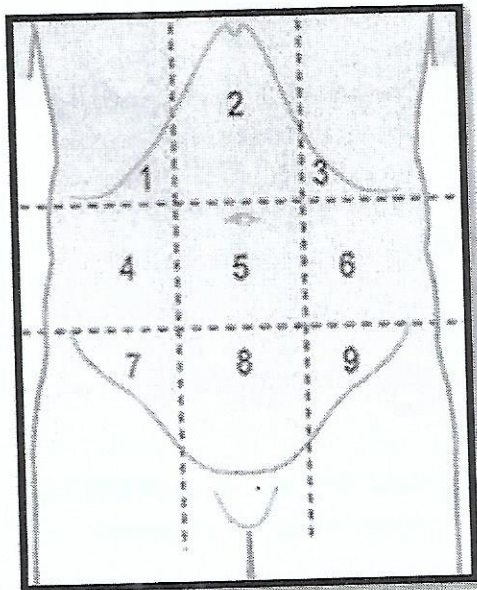


Figure 2

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|-----|--|----------|
| 6.1 | Name the Region 5 and 7. | 10 Marks |
| 6.2 | List five (5) intraperitoneal organs in the “Region 7” | 20 Marks |
| 6.3 | Explain the anatomical basis for the shifting pain in acute appendicitis. | 20 Marks |
| 6.4 | What are the other abdominal structures that can refer the pain to “Region 5.” | 10 Marks |
| 6.5 | List the four common positions of the appendix. | 10 Marks |
| 6.6 | Describe the blood supply of the appendix. | 30 Marks |
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7. A 29-year-old woman delivered her first baby vaginally. An episiotomy (It is a surgical incision of the perineum performed during childbirth to enlarge the vulval outlet) was performed just before the delivery of the fetal head.
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|-----|---|----------|
| 7.1 | List the layers cut during the episiotomy procedure. | 30 Marks |
| 7.2 | Mention the nerve could be blocked during episiotomy to relieve pain. | 15 marks |
| 7.3 | Describe the boundaries and contents of the urogenital region. | 40 marks |
| 7.4 | Mention one complication of episiotomy. | 15 Marks |
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8. 59-year multiparous women presented with painless lumps at the anus and bleeding fresh blood per rectum during defecation. Proctoscopy revealed internal haemorrhoids (piles)
- | | | |
|-----|--|----------|
| 8.1 | Draw a line diagram and label fully the mucosa of the anal canal in a healthy person | 25 Marks |
| 8.2 | Write the composition of internal haemorrhoids. | 20 Marks |
| 8.3 | Mention the location of the internal haemorrhoids. | 20 Marks |
| 8.4 | Why these lumps are painless? | 10 Marks |
| 8.5 | Briefly mention the anatomy of anal sphincters. | 25 Marks |

9. A 62-year-old male develops facial asymmetry after a superficial parotidectomy.
- 9.1 Which nerve is most likely affected in this patient 10 Marks
 - 9.2 Mention the relation of the above nerve and other traversing structures within the parotid gland. 15 Marks
 - 9.3 List five (5) structures that pass beneath the anterior border of the parotid gland 10 Marks
 - 9.4 Write short notes on the capsule of the parotid 20 Marks
 - 9.5 Which nerve receives the sensory innervation over the parotid region 10 Marks
 - 9.6 Briefly describe the accessory parotid gland 15 Marks
 - 9.7 Write the course of the parotid duct 10 Marks
 - 9.8 Mention the histological type of parotid gland 10 marks
10. A 35-year-old motorbike rider met an accident and injured his left shoulder. On admission to the hospital, he was in severe pain in the left shoulder and swelling. He also complained of left upper limb weakness and numbness. He was diagnosed with a left clavicle fracture.
- 10.1 Mention the names of muscles attached to the clavicle. 25 Marks
 - 10.2 What is the most common site of the fracture in the clavicle? 10 Marks
 - 10.3 Mention the anatomical reasons for the positions of the medial and lateral segments of the fractured clavicle. 15 Marks
 - 10.4 What is the most possible neurological structure injured in this patient? 15 Marks
 - 10.5 Describe the origin and parts of the neurological structure mentioned in question 10.4. 35 Marks