

master copy

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

SELECTION EXAMINATION IN MD (ORAL & MAXILLOFACIAL SURGERY) – DECEMBER 2021

Date:- 17th December 2021

Time:- 9.00 a.m. – 12.00 noon

PAPER I

Answer three (03) questions from each part.
Answer each question in a separate book.

PART A (GENERAL ANATOMY)

1. With regard to facial skeleton

1.1. List the functions. (30 marks)

1.2. Describe the adaptations to its functions. (70 marks)

2. Describe the applied anatomy of the following

2.1. Soft palate. (40 marks)

2.2. External carotid artery. (30 marks)

2.3. Styloid apparatus. (30 marks)

3.

3.1. Describe the course and distribution of the left recurrent laryngeal nerve. (50 marks)

3.2. Outline the clinical significance of the recurrent laryngeal nerves. (30 marks)

3.3. Explain the embryological basis of the asymmetry observed in the sites of origin of left and right recurrent laryngeal nerves. (20 marks)

4.

4.1. State the boundaries of the superior mediastinum. (20 marks)

4.2. List the contents of the superior mediastinum. (40 marks)

4.3. A patient with a tumour on the right side of the superior mediastinum had the following signs and symptoms.

- (a) Facial oedema
- (b) Distended veins in the neck
- (c) Cough and breathlessness
- (d) Headache

Explain the anatomical basis of the signs and symptoms mentioned above.

(40 marks)

Contd.../2-

PART B (DENTAL ANATOMY)

- 5.
 - 5.1. Outline the development of the temporomandibular joint (TMJ). (35 marks)
 - 5.2. Describe the macroscopic and microscopic structure of the articular disc. (50 marks)
 - 5.3. State three possible age changes of the TMJ and their clinical significance (15 marks)

- 6.
 - 6.1. Regarding dentine-pulp complex of the crown
 - 6.1.1. Outline the development. (35 marks)
 - 6.1.2. Describe age changes indicating their clinical relevance. (30 marks)
 - 6.2. Explain the theories of hypersensitivity referring to the structure of dentine-pulp complex. (35 marks)

- 7. Regarding the periodontal ligament
 - 7.1. List the different type of cells. (30 marks)
 - 7.2. Outline the extracellular components. (30 marks)
 - 7.3. State the functions, indicating the clinical significance. (40 marks)

- 8.
 - 8.1. Describe the anatomy of a taste bud. (30 marks)
 - 8.2. State how taste buds are arranged on the tongue. (30 marks)
 - 8.3. Explain how taste sensation is initiated in the oral cavity. (40 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

SELECTION EXAMINATION IN MD (ORAL & MAXILLOFACIAL
SURGERY) DECEMBER 2021

Date: 17th December 2021

Time: 1.00 p.m. – 4.00 p.m.

PAPER II

Answer three (03) question from each part.
Answer each question in a separate book.

PART A (PHYSIOLOGY)

1. Explain the physiological basis of the following observations.
 - 1.1. A decrease in the Na⁺ concentration in the external medium of a nerve causes a reduction in the amplitude of the action potential. (25 marks)
 - 1.2. Administration of atropine increases the heart rate significantly. (30 marks)
 - 1.3. Elevated arterial blood pressure is observed in patients with primary hyperaldosteronism. (25 marks)
 - 1.4. Coarse facial features are seen in patients with acromegaly. (20 marks)

2.
 - 2.1. A 35-year-old male, who had been smoking heavily for the past 15 years complained of cough and shortness of breath. He was diagnosed with emphysema.
Explain the physiological basis of the following findings obtained from lung function testing of this patient.
 - 2.1.1. FEV1/FVC ratio of 51% (40 marks)
 - 2.1.2. A decrease in diffusing capacity of the lung (20 marks)
 - 2.2. Describe the effects of lung volumes on pulmonary vascular resistance. (40 marks)

Contd...../2-

3. Explain the physiological basis of the following.
- 3.1. Direct and consensual light reflexes are used to assess the location of lesions in visual pathway. (25 marks)
 - 3.2. Constricted pupils, drooping of upper eyelid and absence of sweating of the face are classic signs associated with Horner syndrome. (25 marks)
 - 3.3. Aphasia following left middle meningeal artery occlusion. (25 marks)
 - 3.4. Oxytocin is used to induce labor. (25 marks)
4. A 58-year-old patient with poorly controlled type 2 diabetes mellitus was admitted to the hospital and scheduled for incision and drainage of a submandibular abscess under general anaesthesia.
Preoperatively following observations were made:
- Respiratory rate 42/min
 - Urine output 9 ml/min for the last two hours
 - Serum K^+ 3.0 mmol/l
 - Fasting blood sugar 358 mg/dl.
 - Arterial blood pH < 7
- Prior to surgery the patient was treated with intravenous soluble insulin, potassium chloride and normal saline.
Explain the physiological basis of
- 4.1 preoperative management mentioned above. (40 marks)
 - 4.2. respiratory rate of 42/min. (20 marks)
 - 4.3. urine output less than 10 ml /min for last the two hours. (20 marks)
 - 4.4. arterial blood pH < 7. (20 marks)

Contd...../3-

PART B (PATHOLOGY)

- 5.
 - 5.1. What is "oedema"? (10 marks)
 - 5.2. List the causes of oedema. (20 marks)
 - 5.3. Describe the pathogenic mechanism of oedema. (50 marks)
 - 5.4. Compare and contrast inflammatory oedema with dependent oedema. (20 marks)

- 6. A patient presented with pain and swelling in relation to the right mandible following a road-traffic accident. Radiological examination revealed a fracture of the right body of the mandible.
 - 6.1. Describe different steps in healing of the above fracture. (50 marks)
 - 6.2. List the factors that could influence fracture healing of this patient. (30 marks)
 - 6.3. What are the possible complications of fracture healing? (20 marks)

- 7. A patient with early stage of acute bacterial parotitis was admitted to the hospital for management.
 - 7.1. State three (03) clinical features that could be seen in the affected parotid gland. (09 marks)
 - 7.2. Outline the pathophysiology of clinical features mentioned in 7.1. (30 marks)
 - 7.3. List two (02) common organisms causing above condition. (06 marks)
 - 7.4. State three (03) possible outcomes of acute bacterial parotitis. (15marks)

In the hospital, intravenous (IV) amoxicillin + clavulanic acid was given. 20 minutes after IV administration, the patient developed generalized urticaria and breathing difficulty.

 - 7.5. What is the condition that the patient developed? (05 marks)
 - 7.6. How do you manage this condition? (10 marks)
 - 7.7. Outline the pathophysiology of development of the condition mentioned in 7.5. (25 marks)

Contd...../4-

8. A 55-year-old patient was diagnosed as T2N2bMx Oral Squamous Cell Carcinoma (OSCC) of the lateral border of tongue.

8.1. Describe the meaning of "T2N2bMx". (20 marks)

8.2. State how could histopathology services support in the overall management of patients with OSCC. (25 marks)

Later the patient underwent surgery followed by postoperative radiotherapy.

8.3. State five (05) possible reasons for consideration of postoperative radiotherapy. (15 marks)

8.4. List orofacial complications of radiotherapy. (20 marks)

8.5. State strategies you would adopt in prevention and early identification of oral OSCC. (20 marks)