

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

SELECTION EXAMINATION IN MD (ORTHODONTICS) –
NOVEMBER 2012

Date :- 21st November 2012

Time :- 1.00 p.m. – 4.00 p.m.

PAPER 1.2

Answer three (03) question from each part .

Answer each question in a separate book.

PART A (GENERAL ANATOMY)

1.
 - 1.1. Describe the relations of the left sternocleidomastoid muscle. (80 marks)
 - 1.2. Describe the actions of sternocleidomastoid muscle. (20 marks)
2.
 - 2.1. Describe the parasympathetic supply of the parotid and submandibular glands. (80 marks)
 - 2.2. Describe the conditions of aberrant innervation with regard to the nerves you mentioned in 2.1. (20 marks)
3.
 - 3.1. Describe the anatomy of temporomandibular joint and its relations. (60 marks)
 - 3.2. Explain the clinical relevance of the temporomandibular joint. (40 marks)
4.
 - 4.1. Describe the development of the palate. (50 marks)
 - 4.2. Describe the embryological basis of the cleft palate formation. (30 marks)
 - 4.3. State how the presence of cleft palate would influence the facial growth and dental occlusion. (20 marks)

Contd..../2-

PART B (DENTAL ANATOMY)

5.
 - 5.1. List the factors that influence the reparative response of the dentine-pulp complex. (30 marks)
 - 5.2. Explain how the factors mentioned in 5.1 respond in reparative process of the dentine-pulp complex. (30 marks)
 - 5.3. Explain how the age changes in the dentine-pulp complex
 - 5.3.1. render it more resistant to environmental injury. (20 marks)
 - 5.3.2. decrease the ability to repair itself. (20 marks)
6.
 - 6.1. List the factors that cause delayed tooth eruption. (30 marks)
 - 6.2. Explain what is meant by mesial (approximal) drift of teeth. (20 marks)
 - 6.3. State the forces that cause the mesial drift. (30 marks)
 - 6.4. Explain how the understanding of mesial drift helps in clinical practice. (20 marks)
7.
 - 7.1. List the "ideal" occlusal features of primary dentition. (10 marks)
 - 7.2. Describe how the features you mentioned in 7.1 would contribute to the development of normal occlusion of permanent dentition. (60 marks)
 - 7.3. State the aetiological factors that lead to development of malocclusion. (30 marks)

Contd..../3-

8. In respect of postnatal growth of the craniofacial complex

- 8.1. State the sites/locations of growth. (20 marks)
- 8.2. State the type of growth which occurs at the sites/locations mentioned in 8.1. (20 marks)
- 8.3. Describe the postnatal growth of the maxilla. (40 marks)
- 8.4. Explain how the knowledge of postnatal growth of maxilla is important in clinical practice. (20 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
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SELECTION EXAMINATION IN MD (ORAL & MAXILLOFACIAL SURGERY), MD (RESTORATIVE DENTISTRY), MD (ORTHODONTICS)
NOVEMBER 2012

Date :- 22nd November 2012

Time :- 9.00 a.m. – 12.00 noon

PAPER II

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

PART A (PHYSIOLOGY)

1.

- 1.1. List the hormones secreted by the thyroid gland. (10 marks)
- 1.2. Describe the functions of the hormones mentioned in 1.1. (30 marks)
- 1.3. Explain the occurrence of goiter in a patient with hypothyroidism or hyperthyroidism. (30 marks)
- 1.4. Speech may be affected following thyroid surgery. Explain the physiological basis of this observation. (30 marks)

2.

- 2.1. Explain the Frank-Starling law of the heart. (25 marks)
- 2.2. Explain the physiological basis of the following features seen in heart failure
 - 2.2.1. Oedema (15 marks)
 - 2.2.2. Breathlessness (15 marks)
 - 2.2.3. Tachycardia (15 marks)
- 2.3. Explain the mechanisms of changes in respiration during exercise. (30marks)

Contd..../2-

3.

3.1. Define the following terms:

3.1.1. Pain (10 marks)

3.1.2. Allodynia (10 marks)

3.1.3. Neuropathic pain (10 marks)

3.2. Discuss the role of gate control theory in pain relief. (30 marks)

3.3. Explain the physiological basis of the observation
"Spastic paralysis in upper motor neurone lesions." (40 marks)

4.

4.1. Define glomerular filtration rate (GFR) and describe how it is measured. (25 marks)

4.2. Describe the role of kidney in the endocrine function. (50 marks)

4.3. Explain the role of kidney in maintaining acid base balance. (25 marks)

PART B (PATHOLOGY)

5.

5.1. List five (05) pathological processes which lead to enlargement of lymph nodes. (15 marks)

5.2. A 45 year old patient presented with an enlarged lymph node in the neck.

5.2.1. List the differential diagnosis. (20 marks)

5.2.2. Describe the macroscopic and microscopic appearance of one (01) of the conditions listed in 5.2.1. (30 marks)

5.3. In the clinical scenario mentioned in 5.2, the patient's examination findings were normal. However Fine Needle Aspiration Cytology (FNAC) report of the node showed occasional giant cells.

5.3.1. List the likely clinical conditions. (15 marks)

5.3.2. Explain how you would arrive at the definitive diagnosis. (20 marks)

6.

6.1. List the donor selection criteria for blood transfusions in Sri Lanka. (15 marks)

6.2.

6.2.1. List five (05) different blood products available for transfusion. (05 marks)

6.2.2. State two (02) indications each for the use of products mentioned in 6.2.1. (20 marks)

6.3. A young man was brought to the accident service following a road traffic accident.

- i. His extremities were cold and clammy
- ii. Hb was 4.0 g/dL
- iii. Blood pressure was 70/40 mmHg

Contd.../4-

- iv. He was transfused 4 units of blood. Soon after the blood transfusion he developed chills and rigors and passed dark coloured urine.

Explain the pathophysiology of the clinical signs observed in (i), (ii), (iii) and (iv). (40 marks)

6.4. List five (05) immunological and five (05) non immunological complications of blood transfusion. (20 marks)

7.

7.1. Define the term "neoplasia". (10 marks)

7.2. Explain the role of oncogenes and oncosuppressor genes in carcinogenesis. (40 marks)

7.3. List the steps involved in the process of metastasis of a malignant tumour. (30 marks)

7.4. Explain the oncogenic mechanisms of Human Papilloma Virus (HPV) and the clinical significance of its positivity in head and neck cancer. (20 marks)

8.

8.1. Compare and contrast apoptosis and necrosis. (30 marks)

8.2. Explain the role of apoptosis in health and disease. (30 marks)

8.3. List the different types of necrosis. (20 marks)

8.4. Compare and contrast the types you mentioned in 8.3. (20 marks)