

**POSTGRADUATE INSTITUTE OF MEDICINE**  
**UNIVERSITY OF COLOMBO**

**SELECTION EXAMINATION IN MD (RESTORATIVE DENTISTRY) –**  
**OCTOBER 2015**

**Date :- 7<sup>th</sup> October 2015**

**Time:- 1.00 p.m. – 3.00 p.m.**

**PAPER I**

Answer two (02) questions from each part.

Answer each question in a separate book.

**PART A (GENERAL ANATOMY)**

1.
  - 1.1. Draw a labeled diagram of the neck at the level of the 7<sup>th</sup> cervical vertebra (C7) to illustrate the arrangement of deep cervical fascia. (30 marks)
  - 1.2. Describe how the arrangement of deep cervical fascia influences the spread of an infection arising from a carious lower molar tooth to the mediastinum and to the base of the skull. (70 marks)
2.
  - 2.1. Describe the prenatal development of the mandible. (50 marks)
  - 2.2. Outline the fate of primary and secondary growth cartilages that are associated with the development of the mandible. (30 marks)
  - 2.3. List the structures derived from the first pharyngeal arch. (20 marks)
3. A patient presented with a complaint of paralysis of the right side of the face together with loss of taste sensation in the anterior part of the tongue on the same side. Hearing function of the patient was normal.
  - 3.1. State the cranial nerve affected. (10 marks)
  - 3.2. State the site of the lesion and mention the reasons. (40 marks)
  - 3.3. Describe the path taken by the taste fibres from the anterior two third of the right side of the tongue to the cerebral cortex. (50 marks)

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**PART B (DENTAL ANATOMY)**

- 4.
- 4.1. List the epithelia and connective tissues involved in the development of teeth and supporting structures. (15 marks)
  - 4.2. List the epithelial cell remnants during the development of teeth and supporting structures indicating their embryological origin. (15 marks)
  - 4.3. Explain how the epithelial cell remnants mentioned in 4.2.
    - 4.3.1. contribute to the proper functioning of the periodontium. (30 marks)
    - 4.3.2. implicate in histogenesis of pathological lesions with examples. (40 marks)
- 5.
- 5.1. List the morphological variations of the cemento-enamel junction (CEJ). (20 marks)
  - 5.2. Explain the clinical importance of identification and location of CEJ. (35 marks)
  - 5.3. List the clinical procedures that can affect the structure of CEJ. (30 marks)
  - 5.4. State three (03) complications that may occur at CEJ due to the clinical procedures mentioned in 5.3. (15 marks)
- 6.
- 6.1. List the types of elastic fibers present in periodontal ligament (PDL). (15 marks)
  - 6.2. State the features in the vasculature of PDL and their clinical importance. (50 marks)
  - 6.3. Explain why PDL is considered to have certain features similar to foetal tissue. (35 marks)

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**PAPER II**

Answer two (02) questions from each part.  
Answer each question in a separate book.

**PART A (PHYSIOLOGY)**

1.
  - 1.1. Define the term “pain” (15 marks)
  - 1.2. Outline the pain pathway including pain from oro-facial structures. (25 marks)
  - 1.3. Describe how pain is controlled at different levels along the pain pathway. (30 marks)
  - 1.4. Describe the strategies/methods used in the management of dental pain/sensitivity. (30 marks)
2.
  - 2.1. Describe the formation of saliva. (30 marks)
  - 2.2. State the role of saliva as a diagnostic tool. (30 marks)
  - 2.3. “Aging affects salivary secretion” comment on the statement. (20 marks)
  - 2.4. State the factors that affect salivary secretion. (20 marks)
3.
  - 3.1. Describe the process of sensory transduction. (30 marks)
  - 3.2. Describe process of adaptation of receptors. (40 marks)
  - 3.3. Neostigmine is used in the treatment of myasthenia gravis. Explain the physiological basis of the above statement. (30 marks)

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**PART B (PATHOLOGY)**

- 4.
- 4.1. List five (05) substances that accumulate in tissues under pathological conditions. (25 marks)
  - 4.2. Describe the underlying pathological processes in accumulation of substances mentioned in 4.1. (75 marks)
5. Explain the role of
- 5.1. B lymphocyte in humoral immunity. (30 marks)
  - 5.2. T lymphocyte in cell mediated immunity. (30 marks)
  - 5.3. Macrophage in chronic inflammation. (40 marks)
- 6.
- 6.1. Explain the cytomorphological, biochemical and immunological features of a malignant cell. (25 marks)
  - 6.2. State the different modes of spread of malignant cells. (25 marks)
  - 6.3. State the factors that govern tumour metastasis. (25 marks)
  - 6.4. List the clinical implications of tumour metastasis. (25 marks)