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

**SELECTION EXAMINATION IN MD (OPHTHALMOLOGY)**  
**JANUARY 2021**

**Date:** 25<sup>th</sup> January 2021

**Time:** 1.00 p.m. – 4.00 p.m.

25.01.2021

**STRUCTURED ESSAY PAPER**

Answer all questions in Parts A, B and C.  
Answer **each question in a separate answer book.**

**PART A (ANATOMY)**

1.
  - 1.1. Describe the origin, course and relations of the vertebral artery. (60%)
  - 1.2. List the branches of the basilar artery. (15%)
  - 1.3. State the areas that are supplied by each branch you stated above. (25%)
2.
  - 2.1. Describe the gross anatomy of the 4<sup>th</sup> ventricle. (60%)
  - 2.2. State the structures of the head and neck that are supplied by the motor nerves origin from the floor of the 4<sup>th</sup> ventricle. (40%)

**PART B (PHYSIOLOGY)**

3. A 60 year old smoker presented to the hospital with sudden onset of chest pain and shortness of breath.  
On admission his tongue and lips were bluish tinted, and finger tips were bluish discoloured. On Examination, pulse rate - 120 beats/min, Blood pressure - 100/70 mm Hg,  
Respiratory rate - 28/min, O<sub>2</sub> saturation - 80%.  
ST elevation of the anterolateral leads was observed in the electrocardiogram.
  - 3.1. Explain the physiological basis for the following.
    - 3.1.1. Bluish discolouration of tongue and finger tips. (30%)
    - 3.1.2. Respiratory rate - 28/min, and O<sub>2</sub> saturation - 80%. (30%)
  - 3.2. Explain the cardiac conduction system and the ECG changes observed in this patient. (40%)

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4.

4.1. Explain the role of hormones in maintenance of calcium homeostasis. (50%)

4.2. Explain the use of opioids in pain relief. (50%)

### PART C (PATHOLOGY)

5. Describe the pathological processes that result in enlargement of tissues/organs (organomegaly). Illustrate your answer giving examples. (100%)

6. Write short notes on

6.1. Insulin resistance (35%)

6.2. Pharmacological basis of actions of atropine (35%)

6.3. Herpes Simplex Virus (30%)