

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD CHEMICAL PATHOLOGY EXAMINATION – JULY 2017

Date : 17th July 2017

Time: 1.00 p.m – 4.00 p.m.

PAPER I (Analytical)

All four questions to be answered.

Use a separate book for each of the four questions.

All questions carry equal marks.

Write legibly.

1. Describe the principles of **two** commonly used methods for any **three (03)** of the following analytes. Mention sample collection requirements and assay interferences where relevant.

- 1.1 Plasma lactate
- 1.2 Plasma renin
- 1.3 Serum creatinine
- 1.4 Glycosylated haemoglobin (HbA_{1c})

2. Write short notes on any **three (03)** of the following.

- 2.1 Functional Sensitivity, Limit of Detection and Limit of Quantification
- 2.2 Biological waste disposal in a Chemical Pathology laboratory
- 2.3 Applications of liquid chromatography-tandem mass spectrometry (LC-MS/MS) in Clinical Chemistry
- 2.4 Methodology for measurement of serum free light chains

3. Critically discuss the factors that you would consider and the steps you would take in establishing high sensitivity troponin assay in your laboratory.

OR

You have been requested to assist by establishing an analytical service for the newly formed lipid clinic in your hospital. Discuss the tests that may be useful for such a service and the factors you would consider in selecting methods.

4. Critically discuss the factors you would consider and the steps you would take in setting up a laboratory information system (LIS) in a Teaching Hospital of Sri Lanka.

OR

Your laboratory is planning on installing an already purchased new biochemistry analyser. How would you handle the installation procedure focusing on acquiring ISO 15189 accreditation?

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Date : 18th July 2017

Time: 9.00 a.m – 12.00 noon

PAPER II (Clinical)

All four questions to be answered.

Use a separate book for each of the four questions.

All questions carry equal marks.

Write legibly.

1. Write short notes on the clinical significance of any **three (03)** of the following.

- 1.1 Procalcitonin
- 1.2 Vitamin B12
- 1.3 Plasma ammonia
- 1.4 Parathyroid hormone (PTH)

2. Write short notes on any **three (03)** of the following.

- 2.1 Biochemical changes in anorexia nervosa
- 2.2 Investigations for Cushing syndrome
- 2.3 Iron overload
- 2.4 Biochemical complications of lithium therapy

3. What investigations would you advise for a 30 year-old woman with newly diagnosed diabetes in order to establish the type of diabetes, to elucidate complications and for follow up?

OR

Discuss the laboratory investigations for a couple with subfertility.

4. Discuss the causes and laboratory investigations for a patient presenting with hyperuricaemia.

OR

Discuss the causes and laboratory investigations for a patient presenting with elevated serum alkaline phosphatase.