

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

**MD CHEMICAL PATHOLOGY EXAMINATION – DECEMBER 2015**

**Date :-** 14<sup>th</sup> December 2015

**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.

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1. Describe the analytical principles of **two different methods** for measuring any **three (03)** of the following analytes.

1.1. Serum LDL cholesterol

1.2. Serum cortisol

1.3. Serum magnesium

1.4. Faecal occult blood

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

2.1. Safety of laboratory personnel

2.2. Immunofixation electrophoresis

2.3. Identification of macropoteins

2.4. Water for laboratory testing

Contd..../2-

3. Write an account on harmonization of testing and reporting of glycosylated haemoglobin (HbA1c) at a national level in Sri Lanka.

OR

Describe common interferences that affect general chemistry assays, briefly indicating the modes of interference where relevant.

What is your strategy for managing them and what principles would you apply when reporting results in such samples?

4. Complaints have been received from the intensive care units that there is a significant delay in receiving reports from the Chemical Pathology laboratory. Discuss how you would investigate and manage these complaints.

OR

There has been a recent spate of complaints from clinicians regarding high serum calcium results which are clinically incompatible. Discuss how you would investigate and resolve this claim.

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**MD CHEMICAL PATHOLOGY EXAMINATION – DECEMBER 2015**

**Date :- 15<sup>th</sup> December 2015**

**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.**

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

1.1. Uric acid

1.2. Adiponectin

1.3. Carbohydrate-deficient transferrin (serum/fluid)

1.4. Alkaline phosphatase

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

2.1. Gestational diabetes mellitus

2.2. Practical utility of tumour markers for thyroid cancer

2.3. Non-alcoholic fatty liver disease

2.4. Cerebral salt wasting vs Syndrome of inappropriate antidiuresis

Contd...../2-

3. The prevalence of chronic kidney disease (CKD) in the country is on the rise. Discuss the role of the Chemical Pathology laboratory in supporting clinicians in screening, staging, monitoring and managing CKD and its complications.

OR

A 48-year-old male presents to the Emergency Treatment Unit with acute chest pain.

What are the criteria for a diagnosis of myocardial infarction?

What Chemical Pathology investigations are used in the immediate and long-term risk assessment and management of this patient, if the diagnosis of myocardial infarction is confirmed?

4. A one-year-old child was found to have a high-anion-gap metabolic acidosis. Discuss the role of the Chemical Pathology laboratory in arriving at a diagnosis.

OR

A 28-year-old female presenting with hirsutism and oligomenorrhoea was found to have a serum testosterone level of 4.5 nmol/L (Reference range <2.4).

Discuss the possible causes and relevant investigations that could assist in establishing the diagnosis.