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

**MD CHEMICAL PATHOLOGY EXAMINATION – JUNE/JULY 2016**

**Date :- 27<sup>th</sup> June 2016**

**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 **methods** for measuring any **three (03)** of the following analytes :
    - 1.1. Serum HDL cholesterol
    - 1.2. Serum calcium
    - 1.3. Urine copper
    - 1.4. Serum 25-OH vitamin D
  
  2. Write short notes on any **three (03)** of the following:
    - 2.1. Drugs of abuse testing in urine
    - 2.2. Lean processes in the chemical pathology laboratory
    - 2.3. Real-time PCR
    - 2.4. Renal stone analysis

Contd..../2-

3. A chemical pathologist in a Teaching Hospital in the North Central Province has been asked to introduce a new method for creatinine. Discuss how you will select, validate and introduce the method.

**OR**

Describe the principles and applications of total quality management in a chemical pathology laboratory.

4. Critically discuss the methods available for measurement of free hormones. Mention the advantages and disadvantages of free hormone measurements over total hormone measurements giving examples where relevant.

**OR**

Compare the advantages and disadvantages of biochemical assays carried using point of care methods with those done in main laboratories.

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**MD CHEMICAL PATHOLOGY EXAMINATION – JUNE/JULY 2016**

**Date :- 28<sup>th</sup> June 2016**

**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. Calprotectin

1.2. Lactate

1.3. Procollagen type I N-terminal propeptide (PINP)

1.4. Copeptin

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

2.1. Diagnosis of adrenal insufficiency

2.2. Medium-chain-acyl-CoA dehydrogenase(MCAD) deficiency

2.3. Acute phase reactants

2.4. Investigation of unilateral pleural effusion

3. You have been asked to assist with the implementation of a more effective triage system in the emergency department for patients presenting with acute chest pain. Describe the tests and techniques you would select and how you would utilize them, giving reasons.

**OR**

Describe the regulation of sodium homeostasis in blood. Discuss how you would investigate a patient presenting with hyponatraemia.

4. Describe how you would assess and monitor an adult patient receiving total parenteral nutrition. Discuss the complications that can arise from total parenteral nutrition.

**OR**

Discuss the risk factors for gestational diabetes and the complications that this may cause for mother and baby.