POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD CHEMICAL PATHOLOGY EXAMAINATION – JULY 2018

Date :- 16th July 2018   Time :- 1.00 p.m. – 4.00 p.m.

PAPER I (Analytical)

All four (04) 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 principle of **one (01)** appropriate method for the measurement of any **three (03)** of the following. Mention sample collection requirements and assay interferences where relevant.

    1.1. Faecal immunochemical test (FIT)

    1.2. Enzymatic creatinine assay

    1.3. Ionized calcium

    1.4. Blood lactate

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

    2.1. Ultracentrifugation

    2.2. Heterophile antibodies

    2.3. Lineweaver-Burk plot

    2.4. Isoelectric focusing electrophoresis

3. You have been asked to design a new external quality assurance (EQA) scheme. What factors would you take into consideration? Comment on statistical models that might be useful for the purpose and data to be included in a report.

OR

Pathology department in a teaching hospital performs conventional troponin I by fully automated immunoassay system. The management decides to purchase a brand new hs-troponin I assay from a new supplier. Discuss the implications of introducing such an assay and methods of overcoming those implications.

4. Review the methods used in the clinical biochemistry laboratory for the estimation of trace elements.

OR

Describe the components of liquid chromatography-tandem mass spectrometry (LC-MS/MS) systems and the factors affecting their optimization. Outline the applications of liquid chromatography-tandem mass spectrometry in the clinical biochemistry laboratory.

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MD CHEMICAL PATHOLOGY EXAMINATION – JULY 2018

Date :- 17th July 2018   Time :- 9.00 a.m. – 12.00 noon

All four (04) 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. Glycated albumin

    1.2. Human chorionic gonadotrophin (hCG) as a tumour marker in males and females

    1.3. Amylase-creatinine clearance ratio

    1.4. Amino terminal propeptide of type III procollagen (PIIINP)

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

    2.1. Urine anion gap

    2.2. Diagnosis of acute kidney injury (AKI)

    2.3. Pseudohyperkalaemia

    2.4. Apparent mineralocorticoid excess syndrome

3. What are the various types of paraneoplastic syndromes? Discuss paraneoplastic disturbances of water and electrolyte metabolism and hormone secretion.

OR

What is diurnal variation? Giving examples of four (04) different analytes, discuss the potential errors in interpretation of results due to lack of knowledge of diurnal variation.

4. "Calculated LDL cholesterol is the most predictive test of cardiovascular risk". Critically discuss the above statement.

OR

Discuss the use of biochemical markers of bone turnover in the management of osteoporosis.