



**MASENO UNIVERSITY**  
**UNIVERSITY EXAMINATIONS 2013/2014**

**FOURTH YEAR SECOND SEMESTER EXAMINATIONS FOR THE  
DEGREE OF BACHELOR OF SCIENCE IN BIOMEDICAL SCIENCE  
WITH INFORMATION TECHNOLOGY**

**(MAIN CAMPUS)**

**PMT 426: CLINICAL BIOCHEMISTRY AND CHEMICAL  
PATHOLOGY**

*Date: 1<sup>st</sup> April, 2014*

*Time: 2.45 – 5.00pm*

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**PMT 426: CLINICAL BIOCHEMISTRY AND CHEMICAL  
PATHOLOGY**

**Instructions**

1. This examination is divided into TWO sections.
2. Answer ALL questions in section A
3. Answer the first question in Section B, plus ANY OTHER one question
4. For all attempted questions, credit will be given for short concise answers with clearness in expression
5. Indicate the question numbers on the front page of the answer booklet in the order in which you have answered them
6. If you have a question during the examination, please raise your hand and an examination committee member will come to you.

**SECTION A: Answer ALL questions**

1. Explain the following terminologies
  - a. Mammography
  - b. Chylomicrons
  - c. Pap smear

[6 marks]
2. Describe the clinical significance of liver function tests

[3 marks]
3. Briefly, outline the steps involved in obtaining a cerebrospinal fluid sample

[4 marks]
4. Describe the van den berg test and mention its clinical indication

[4 marks]
5. List
  - i). Two physical characteristics of normal urine
  - ii). Three abnormal constituents of CSF

[5 marks]
6. Briefly explain why test on gastric content analysis may be requested

[5 marks]
7. Describe how the glomerular filtration rate (GFR) serves as a reliable renal function test

[4 marks]
8. Contrast how diet and diurnal variation may affect the constituents of body fluid specimens at the time of sample collection

[4 marks]
9. Explain the criteria for selecting the plasma enzyme tests to perform based on diagnosis

[4 marks]
10. State whether each of the following statements is TRUE or FALSE

- i). The plasma protein concentration is lower in a blood specimen taken when a patient is seated down than in blood specimen taken when a patient is standing upright
- ii). Prolonged prothrombin time is always indicative of hepatocellular damage

[1/2 X 2 marks]

**SECTION B:** Answer Q11 and ANY OTHER one question

- 11.
    - a. Describe how urinalysis is done microscopically; highlighting how the sample is prepared and any anticipated observations during examination.
    - b. Describe any four methods of urine collection and where necessary, explain their suitability for the type of test required.
- [7 + 8 marks]
12. Discuss any three types of jaundice, highlighting their possible causes
- [15 marks]
- 13.
    - a. Mention any one confirmation test for the diagnosis of acute pancreatitis and describe how it is elucidated
    - b. Write short notes on the following tests:
      - i). Blood urea and urea clearance test
      - ii). Creatinine clearance test
      - iii). Inulin clearance test
- [6 + 9 marks]