



MASENO UNIVERSITY
UNIVERSITY EXAMINATIONS 2013/2014

**FIRST YEAR FIRST SEMESTER EXAMINATIONS FOR MASTER OF
SCIENCE IN PUBLIC HEALTH
(CITY CAMPUS)**

PMT 816: ADVANCED MEDICAL BIOCHEMISTRY

Date: 18th November, 2013

Time: 2.00 - 5.00pm

INSTRUCTIONS:

- Answer **QUESTION ONE** and any other **FOUR** questions.

PMT 816: ADVANCED MEDICAL BIOCHEMISTRY

Answer Question 1 and ANY Other 4 Questions

1. Discuss *de novo* and *salvage* pathways for synthesis of pyrimidine nucleotides (16 marks)
2. Discuss the biochemical pathways involved in the synthesis of corticosteroids and the homeostatic control in regulation of their levels (11 marks)
3. Explain the molecular basis of regulation of glucose levels in the body by Glucagon and Insulin (11 marks)
4. Explain the structural and functional differences between Myoglobin and hemoglobin and how mutation in the hemoglobin molecule can lead to a named disease (11 marks)
5. Discuss structures and reactions of the following coenzymes in catabolism
 - (a) Coenzyme A (3 marks)
 - (b) Thiamine pyrophosphate (TPP) (3 marks)
 - (c) Flavin adenine dinucleotide (FAD) (3 marks)
 - (d) Biotin (2 marks)
6. Show the differences and similarities in DNA and RNA synthesis in;
(11 marks)
 - (a) Human immunodeficiency Virus type 1
 - (b) Mammalian cell