



MASENO UNIVERSITY

UNIVERSITY EXAMINATIONS 2016/2017

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

MAIN CAMPUS

PMB 448: PRINCIPLES OF GENOMICS AND PROTEOMICS

Date: 26th July, 2017

Time: 12.00 - 3.00 pm

INSTRUCTIONS:

- Answer ALL questions in SECTION A and any other TWO questions in SECTION B

PMB 448: PRINCIPLES OF GENOMICS AND PROTEOMICS

SECTION A {40 MARKS}

Answer ALL questions. Use illustrations wherever appropriate.

- Q1.** Define the following terminologies as applied in genomics and proteomics:
a) Pharmacogenomics
b) Chemogenomics
c) Toxicogenomics
d) Clinomics
e) Functional genomics [10 marks]
- Q2.** Describe protein affinity chromatography and immunoprecipitation. [10 marks]
- Q3.** Describe the process of phage display technology. [10 marks]
- Q4.** Briefly describe microarray as a method for studying protein interaction. [10 marks]

SECTION B {30 MARKS}

Answer any TWO questions. Use illustrations wherever appropriate.

- Q5.** Describe the mechanism and procedures for RNA interference. [15 marks]
- Q6.** Describe how to localize proteins using epitope tagging and Fluorescence Resonance Energy Transfer (FRET). [15 marks]
- Q7.** Summarize the most common covalent modifications of protein activity. [15 marks]