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(University of Choice)

**MASINDE MULIRO UNIVERSITY OF  
SCIENCE AND TECHNOLOGY  
(MMUST)**

MAIN CAMPUS

**UNIVERSITY EXAMINATIONS  
2021/2022 ACADEMIC YEAR**

**FIRST YEAR SECOND SEMESTER EXAMINATIONS**

**FOR THE DEGREE  
OF  
MASTER OF SCIENCE BIOMEDICAL SCIENCES (MEDICAL  
BIOTECHNOLOGY)**

**MAIN EXAM**

**COURSE CODE:** BMB 822

**COURSE TITLE:** GENE EXPRESSION, REGULATION AND PROTEIN  
TRAFFICKING MOLECULAR BIOLOGY

**DATE:** 25/04/2022

**TIME:** 12.00 -3.00 PM

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**INSTRUCTIONS TO CANDIDATES**

This paper has five questions, you are required to answer FOUR questions. Question ONE is compulsory. Choose any other 3 questions.

TIME: 3 Hours

MMUST observes ZERO tolerance to examination  
cheating

**Compulsory**

1. Compare and contrast prokaryotic and eukaryotic gene expression (25 Marks).

**Choose any 3 Questions**

2. Give detailed account of eukaryotic gene expression (25 Marks).
3. Discuss protein translocation and trafficking (25 Marks).
4. Write brief notes on the following. (25 Marks).
  - a) Genetic code
  - b) Molecular Chaperones and Proteasomes
  - c) Proteasomes and Ubiquitin
  - d) Protein activation
  - e) Alternative splicing
5. Discuss inhibitors of protein synthesis. (25 Marks).