THE MOMBASA POLYTECHNIC UNIVERSITY COLLEGE

(A CONSTITUENT COLLEGE OF JKUAT)

(A Centre of Excellence)

Faculty of Applied and Health Sciences

DEPARTMENT OF **PURE AND APPLIED SCIENCES**

DIPLOMA IN INDUSTRIAL MICROBIOLOGY AND BIOTECHNOLOGY
(DIMBT 10M)

ABT 2305: GENETIC ENGINEERING II

SPECIAL/SUPPLEMENTARY: EXAMINATIONS

SERIES: February 2013

TIME: 2 HOURS

INSTRUCTIONS:

You should have the following for this paper

- *Answer booklet*

This paper consists of ***FIVE*** questions.
Answer Question **ONE (compulsory)** and any other **TWO** questions
*This paper consists of **2 PRINTED** pages*

Question ONE

a) Define the following
   (i) DNA sequencing **(1mark)**
   (ii) Dideory nucleotide **(1mark)**
   (iii) Somatic Cell **(1mark)**
   (iv) Heterokaryon Cell **(1mark)**
   (v) Recombinant DNA Technology **(2marks)**
b) Describe the mechanism of restriction enzyme **(3marks)**
c) Highlight the importance of gene expression **(5marks)**
d) Describe the following
   (i) Transcription **(3marks)**
   (ii) Translation **(3marks)**
e) Outline the advantages of cell based method of vaccine production **(5marks)**
f) State advantages and disadvantages of chicken egg vaccine production **(5marks)**

Question TWO

Discuss the process of cloning a Eukaryotic gene in bacterial plasmid. **(15marks)**

Question THREE

Discuss the process of vaccine production **(15marks)**

Question FOUR

Discuss the process of gene Therapy **(15marks)**

Question FIVE

Discuss Recombinant DNA insulin Inrelation to
(i) Defination **(1mark)**
(ii) Synthesis **(2marks)**
(iii) Vector **(1mark)**
(iv) Process of genetic engineering **(4marks)**
(v) Humulin production **(6marks)**