

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

**SECOND YEAR EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR
OF SCIENCE IN BIOMEDICAL**

BMET 442: RECOMBINANT DNA TECHNOLOGY

STREAMS:

TIME: 2 HOURS

DAY/DATE: TUESDAY 23/03/2021

11. 30 A.M – 1.30 P.M

INSTRUCTIONS:

Answer question one and any other two questions

Do not write on the question paper

QUESTION ONE (30 MARKS)

- (a) Describe the main applications of restriction enzymes. [6 marks]
- (b) Describe briefly the areas in which hybridization can be used. [6 marks]
- (c) Highlight essential features of a cloning vector. [6 marks]
- (d) There are several factors that contribute to a successful PCR process. Briefly discuss any six. [6 marks]
- (e) Discuss the application of recombinant DNA technology. [10 marks]

QUESTION TWO (20 MARKS)

- (a) Explain various uses of bioinformatics. [10 marks]
- (b) Give various examples of industrial applications of recombinant DNA technology. [10 marks]

QUESTION THREE (20 MARKS)

- (a) With the aid of an illustration, explain the process of Northern Bottling and its application. [10 marks]
- (b) Short gun sequencing is used to sequence very large amounts of DNA .Discuss. [10 marks]

QUESTION FOUR (20 MARKS)

- (a) Explain in detail the various methods for the production of labeled probes. [10 marks]
 - (b) Explain various cloning vectors used in recombinant DNA. [10 marks]
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