

UNIVERSITY OF FORT HARE

MIC 321

SUPPLEMENTARY EXAMINATIONS

JANUARY 2019

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Time: 3 Hours

Subject: MIC 321

Marks: 100

This paper consists of 2 pages including the cover page

Internal Examiners
Dr. N Nontongana

External Examiners
Prof. C Ateba

INSTRUCTIONS

- 1. Answer all questions**

Question 1 (20 Marks)

1.1 With the use of an annotated diagram, describe how DNA replication occurs. (20 Marks)

Question 2 (20 Marks)

- 2.1 What are the start and stop codons in the genetic code? (4 marks)
2.2 List and define the 3 gene exchange mechanisms (6 Marks)
2.3 List 5 types of non-coding RNA's and their functions (10 marks)

Question 3 (20 Marks)

- 3.1 What are the raw materials needed for protein synthesis (10 marks)
3.2 Give an overview of protein synthesis (10 marks)

Question 4 (20 Marks)

- 4.1 Show with illustrations the two patterns of cleavage produced by restriction endonuclease including the enzyme used to cleave the specific restriction sites. (16 Marks)
4.2 Differentiate between YAC and BAC vectors (4 Marks)

Question 5 (20 Marks)

- 5.1 Explain the procedure for dideoxy sequencing. (12 Marks)
5.2 Give 4 advantages of the Polymerase Chain Reaction. (8 Marks)

TOTAL (100 Marks)