

UNIVERSITY OF FORT HARE

BCH 323

DEGREE EXAMINATIONS

November 2017

Time: 3 HOURS

Subject: Information Flow and Introduction to Bioinformatics

Marks: 100

This paper consists of 3 pages including cover page

Internal Examiner

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External Examiner

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Instructions

Answer All Questions

Question 1

- i. Define the following:
 - a. Chargoff's rule
 - b. A-DNA
 - c. Purine
 - d. DnaB
 - e. Hyperchromic effect (10)
- ii. Discuss the term "c-value paradox" and its applicability to the DNA structure. (10)

Question 2

Distinguish between nucleosides and nucleotides as well as purines and pyrimidines and draw the relevant structures. (20)

Question 3

Describe the properties and functions of enzymes involved in DNA replication. (20)

Question 4

There are at least six different forms of RNA, three of these are most important in the production of proteins. Name these three different forms of RNA and also describe in detail their individual functions that eventually lead to incorporation of the correct amino acids that in turn finally produce a functional protein. (20)

Question 5

Compare in tabular form Prokaryotic vs Eukaryotic replication. (20)