



NATIONAL OPEN UNIVERSITY OF NIGERIA
PLOT 91, CADASTRAL ZONE, NNAMDI AZIKIWE EXPRESSWAY, JABI -
ABUJA
FACULTY OF SCIENCE
2023 2 EXAMINATIONS_

BIO 305: MOLECULAR BIOLOGY

Time allowed: 2hrs

Credit Units: 2

Instruction: Answer FOUR questions only. Question 1 is compulsory.

- 1a. Define the term molecular Biology and state its fundamental application (5marks)
- 1b. Highlight four features of *Escherichia coli* that makes it a suitable experimental model in Molecular Biology (8 marks)
- 1c. Explain the term 'Central Dogma' (6marks)
- 1d. Describe the structure of a chromosome (6 marks)

- 2a. What is Metabolism? (3 marks)
- 2b. Give the contributions of the following scientist in the field of Molecular biology: (12 marks)
 - i. William Astbury
 - ii. Gregor Mendel
 - iii. W. Johannsen
 - iv. Seymour Benzer
 - v. Thomas Morgan
 - vi. Watson-Crick

3. Discuss the mechanism of chain initiation during protein synthesis (15 marks)

- 4a. Highlight five features of *Saccharomyces Cerevisiae* that makes it a suitable experimental model in Molecular Biology (12 marks)
- 4b. What is a chromosome number? (3 marks)

5. Write short note on the following (15 marks)