



NATIONAL OPEN UNIVERSITY OF NIGERIA

**Plot 91, Cadastral Zone, Nnamdi Azikiwe Expressway, Jabi - Abuja
Faculty of Science**

DEPARTMENT OF BIOLOGICAL SCIENCES

2024_2 EXAMINATION

COURSE CODE: BIO 301

COURSE TITLE: GENETICS II

GCREDIT: 3 Units

TIME ALLOWED: 3 Hours

INSTRUCTION: Answer Question ONE (1) and any other THREE (3) Questions

- 1a. Describe the Cytology of inversions. 5marks
- 1b. Explain Aneuploidy. 5marks
- 1c. What are the applications of aneuploids in crop improvement and genetic studies? 9marks
- 1d. Explain the Phenotypic and Physiological effects of polyploidy. 6marks

- 2a. Describe Genetic Reshuffling. 12marks
- 2b. Define Microbial genetics. 3marks

- 3a. Outline the synthesis of the lagging strand. 5marks
- 3b. Describe Bacterial Replication. 10marks

- 4a. Write short notes on the following mutagens. 7marks
 - i. Nitrous acid. 3marks
 - ii. UV Light: 4marks
- 4b. Outline the eight Steps in specialized Transduction. 8marks

- 5. Write an essay on the lytic cycle during transduction. 15marks

- 6a. Outline the Common variations associated with disease susceptibility. 10marks
- 6b. Describe the term Muscular dystrophy. 5marks