



NATIONAL OPEN UNIVERSITY OF NIGERIA  
UNIVERSITY VILLAGE, PLOT 91 CADASTRAL ZONE, NNAMDI AZIKIWE EXPRESS WAY, JABI  
- ABUJA.

FACULTY OF SCIENCE  
Department of Pure and Applied Sciences

2021\_2 Examination

**BIO 305: MOLECULAR BIOLOGY**

**Time allowed: 2hrs**

**Credit Units: 2**

**Instruction: Answer question ONE (1) and any other THREE (3) questions**

- 1 a. Concisely justify the study of molecular biology. 6marks  
b. List and explain the two types of nucleic acid hybridization. 8marks  
c. Write short notes on any two of the followings; 6marks  
i. Citron  
ii. Muton  
iii. Recon  
d. Justify the use of yeast in molecular biology. 5marks
- 2 a. Explain the steps of central dogma 5marks  
b. Succinctly explain the structure of chromosomes. 5marks  
c. Write short notes on the sex chromosomes. 5marks
- 3a. Explain gene expression in Bacteria. 6 marks  
b. Write on Hormonal control of gene expression. 9marks
- 4 a. Briefly write on the polymer of nucleotides. 9marks  
b. Explain the major activities that occur in Krebs's cycle. 6marks
- 5 a. Elucidate on the relationship of molecular biology and other biological sciences. 7marks  
b. Justify the use of *E. coli* in molecular biology. 8marks