NATIONAL OPEN UNIVERSITY OF NIGERIA
PLOT 91, CADASTRAL ZONE, NNAMDI AZIKIWE EXPRESSWAY, JABI - ABUJA
FACULTY OF SCIENCE
Department of Pure and Applied Sciences

June 2021 EXAMINATION 1234

BIO 305: MOLECULAR BIOLOGY
Time allowed: 2hrs
Credit Units: 2
Instruction: Answer question ONE (1) and any other THREE (3) questions.

1a Define DNA sequencing (2mrks)
1b Name and Describe any four (4) Techniques in Molecular Biology (20 mrks)
1c State how restriction fragment length polymorphisms (RLFPs) serve as genetic marker (3 mrks)

2a What is the limitation of prokaryotes (bacteria) as models for studies of cell properties? (3mrks)
2b Highlight five features of *Saccharomyces cervisae* that makes it a suitable experimental model in Molecular Biology (12 mrks)

3a i. Define the term genetic code (2 mrks)
ii Briefly Explain the proceedings of transcription along the 5□□3□ direction (3mrks)
3b Discuss the replication of DNA (10 mrks)

4a Expatiate on the statement "DNA does not play any part in the manufacturing process but merely give instructions as to what shall be processed and how this should be done" (5 mrks)
4b Discuss the roles of peptide and steroid hormones in control of gene expression (10 mrks)

5a Mention two (2) functions of Metabolic pathways? (3 mrks)
5b Outline the six (6) features of the genetic code. (12 mrks)