

**NATIONAL OPEN UNIVERSITY OF NIGERIA**

**14/16 AHMADU BELLO WAY, VICTORIA ISLAND, LAGOS**

**SCHOOL OF SCIENCE AND TECHNOLOGY**

**JUNE/JULY EXAMINATION**

**COURSE CODE: BIO305**

**COURSE TITLE: MOLECULAR BIOLOGY**

**TIME ALLOWED:2 HOURS**

**INSTRUCTION: ANSWER ANY FOUR QUESTIONS**

1a. Outline the importance of genes in heredity.

 ii. Write short notes on termination and the kreb citric acid cycle

bi. Highlight the roles of DNA and RNA

ii. Describe the central dogma.

2ai.What is nucleic acid hybridsation?

ii. Write short notes on the following: (i)a cistron (ii)muton (iii)recon

bi. List the major components of a nucleotide.

ii. Describe how hormones control gene-expression.

3ai.Describe the various steps involved in the process of chain elongation stage during protein synthesis..

ii. What is DNA sequencing?

b. Briefly describe any two methods for determining DNA sequences.

4a.What is molecular biology.

 ii. Outline the relationship of molecular biology to other biological sciences.

bi. What do you understand by the term chromosomes?

 ii. Ecsherichia coli are useful in molecular biology. Discuss.

5ai. Define DNA.

ii. Write short notes on the following:

(i) t RNA (ii) r RNA (iii) m RNA

bi. Define gene-expression.

ii. Outline the characteristics of genetic code.

6ai. What do you understand by the term catabolism?

ii. Outline the important features of glycolysis.

bi. Enumerate the stages involved in the breakdown of glucose.

ii. Describe the process of oxidative phosphorylation