



**National Open University Of Nigeria**  
**Plot 91, Cadastral Zone, Nnamdi Azikiwe Expressway, Jabi - Abuja**  
**Faculty of Science**  
**JULY 2017 EXAMINATION**

**COURSE CODE: BIO 305**

**COURSE TITLE: MOLECULAR BIOLOGY**

**CREDIT: 2 units**

**TIME ALLOWED: 2 Hours**

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

1. (a) What do you understand by the term catabolism? (3 marks)  
(b) Outline the importance of genes in heredity. (4 marks)  
(c) Enumerate the characteristics of genetic code. (9 marks)  
(d) Write **short notes** on the following:
  - i. m RNA (3 marks)
  - ii. t RNA (3 marks)
  - iii. r RNA (3 marks)
2. (a) Define the term DNA sequencing. (2 marks)  
(b) Describe in details any two methods for determining DNA sequences. (13 marks)
3. (a) Outline the important features of glycolysis. (6 marks)  
(b) Describe the various steps involved in the process of chain elongation stage during protein synthesis. (9 marks)
4. (a) Give a **detailed description** of the process of oxidative phosphorylation. (8 marks)  
(b) Give an account of the relationship between Molecular Biology and other Biological Sciences. (7 marks)
- 5 (a) Summarize the roles of DNA and RNA (4 marks)  
(b) Describe with examples and illustrations the human genetic disorders. (11 marks)