



National Open University of Nigeria
Plot 91, Cadastral Zone, Nnamdi Azikiwe Expressway, Jabi - Abuja
Faculty of Science

BIO305 MOLECULAR BIOLOGY EXAMINATION

Time: 2 hours

Instructions: Answer 4 questions only .Question 1 is compulsory

- 1a In a tabular form, three differences and similarities between deoxyribonucleic acid and ribonucleic acid (9½ marks)
 - b. Transcribe the following Codon to the complementary codon in the messenger RNA i). AAA ii). TAT iii). GGG iv). TCA v. AGG (5marks)
 - c. Differentiate between the Catabolism and Anabolism (3marks)
 - d. Explain the term 'Molecular Biology'. (7½marks)
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- 2.a. Explain the nature and function of genes (10marks)
 - b. What is a cistron ? (5marks)
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3. a. List the forms of RNAs involved in protein synthesis (3marks)
 - b. **Describe** the role of DNA in the successful transfer of information during the replication of cells (12marks)
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4. a Describe the processes involved Chain Termination (7½ marks)
 - b. What is the role of TATA box transcription?(7½ marks)
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- 5.a. In which part of the cell does the Krebs Citric Acid Cycle take place? (1 mark)
 - b. List the stages involved in the complete degradation of glucose (4marks)
 - c. What is the fate of the pyruvic acid produced during glycolysis under aerobic conditions? (10marks)