



**ELIZADE UNIVERSITY,  
ILARA-MOKIN, NIGERIA**

**FACULTY: BASIC & APPLIED SCIENCES**

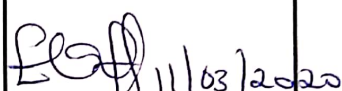
**DEPARTMENT: BIOLOGICAL SCIENCES**

**FIRST SEMESTER EXAMINATION**

**2019/2020 ACADEMIC SESSION**

**COURSE CODE: BTH 201**

**COURSE TITLE: INTRODUCTION TO BIOTECHNOLOGY AND  
GENETIC ENGINEERING**

  
11/03/2020

**DURATION: 2 HOURS**

**HOD's SIGNATURE**

**NAME:.....**

**MAT. No:.....**

**INSTRUCTIONS**

**Answer two questions from each section**

**Note: All questions and sections carry EQUAL marks!**

## SECTION A

1. (a) i. What are the advantages and disadvantages of Polymerase Chain Reaction (PCR)?  
ii. What are the terms use to describe the following condition during PCR analysis?  
(a) 94<sup>0</sup>C for 5 minutes (b) 54<sup>0</sup>C for 30 seconds (c) 72<sup>0</sup>C for 30 seconds  
(b) What are the comparison between PCR and Recombinant DNA technology?

**15marks**

2. (a) What is Recombinant DNA Technology  
(b) Describe the following and explain their roles using notable example in Recombinant DNA Technology
  - i. Vector
  - ii. Restriction enzymes

**15marks**

3. (a) Describe the molecular structure of the DNA  
(b)
  - i. Explain the two (2) types of DNA libraries (genomic DNA and complimentary DNA)
  - ii. What are the advantages of cDNA over gDNA

**15marks**

## SECTION B

1. (a) Define traditional and modern biotechnology, highlighting the major differences  
(b) List and explain the prerequisites for genetic modification in organism  
(c) Briefly explain conjugation and mutagenesis as a tool in traditional biotechnology
2. (a) List the and explain areas of improvement in microbial strain for fermentation  
(b) Mention the available examples of Genetically Modified Organisms (GMOs) and it modifications  
(c) In traditional biotechnology, list 5 selection basis used by farmers to boost yield
3. (a) Explain the process of yogurt making from fresh milk  
(b) What is the major benefit of cassava fermentation?  
(c)
  - i. Enumerate the uses of alcohol
  - ii. List the bye-products from alcohol

**15marks**

**15marks**

**15marks**