



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

**FACULTY: BASIC & APPLIED SCIENCES**

**DEPARTMENT: BIOLOGICAL SCIENCES**

**FIRST SEMESTER EXAMINATION**

**2017/2018 ACADEMIC SESSION**

**COURSE CODE: BTH 201**

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

**DURATION: 2 HOURS**

**HOD's SIGNATURE**

**NAME:.....**

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

**INSTRUCTIONS**

**Answer all questions in section A**

**Answer any two questions from section B**

## SECTION A

1a. 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

c. Briefly describe how bacteria cell can be selected after transformation in Recombinant DNA Technology

2a. i. What are the advantage and disadvantage 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 b) 54<sup>0</sup>C c) 72<sup>0</sup>C d) 10<sup>0</sup>C

iii) What are the comparison between PCR and Recombinant DNA technology?

b. Describe the application of Biotechnology in the following fields

i. Agriculture

ii. Medicine

iii. Environment

iv. Food industry

v. Chemical Industry

## Section B

1. (a) List and explain the prerequisites for genetic modification in organism

(b) Define traditional and modern biotechnology, highlighting the major differences

2. (a) Mention 5 reasons why we ferment food

(b) Explain transduction and electroporation as a mode of transfer of desired gene

(c) Briefly explain conjugation and mutagenesis as a tool in traditional biotechnology

3. (a) Explain traditional and modern biotechnology, highlighting the major differences

(b) Explain transduction and electroporation as a method in gene transfer

(c) Mention the 3 major classes of sugar used in alcohol fermentation with at least 2 examples of their natural sources

4. (a) List the and explain areas of improvement in microbial strain for fermentation

(b) In traditional biotechnology list 5 selection basis in which farmers make their output better

5/11/201