



**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) 94⁰C b) 54⁰C c) 72⁰C d) 10⁰C
- 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