



ELIZADE UNIVERSITY,
ILARA-MOKIN, NIGERIA

FACULTY: BASIC & APPLIED SCIENCES

DEPARTMENT: BIOLOGICAL SCIENCES

FIRST SEMESTER EXAMINATION

2018/2019 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 two questions in section B

Note: All questions and sections carry EQUAL marks!

SECTION A

1. a. Using notable scientific/biological events, describe the following stages of biotechnology
 - i. Ancient biotechnology
 - ii. Classical biotechnology
 - iii. Modern biotechnology
 - b. 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) 94⁰C for 5 minutes (b) 54⁰C for 30 seconds (c) 72⁰C for 30 seconds
 - iii. What are the comparison between PCR and Recombinant DNA technology?
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
 - c. Briefly describe how bacteria cell can be selected after transformation in Recombinant DNA Technology

SECTION B

1. a. Describe recent application of Biotechnology in the following fields
 - i. Agriculture
 - ii. Medicine
 - iii. Chemical and food industry
 - iv. Environment
 - v. Forensic industry
 - b. What are transgenic organisms? Explain the advantages and ethical challenges of depending on genetically modified organisms
2. a. List the and explain areas of improvement in microbial strain for fermentation
 - b. How does fermentation increases nutritional quality of cassava
 - c. i. List the uses of alcohol
 - ii. List the bye-products gotten from alcohol fermentation
3. a. List and explain the processes involved in alcohol fermentation
 - b. Explain transduction and electroporation as a mode of transfer of desired gene
 - c. i. Mention 5 reasons why we ferment food
 - ii. What are bacteriocins