



**ELIZADE UNIVERSITY, ILARA-MOKIN
ONDO STATE**

FACULTY: BASIC AND APPLIED SCIENCES

DEPARTMENT: PHYSICAL AND CHEMICAL SCIENCES

FIRST SEMESTER EXAMINATIONS

2015/2016 ACADEMIC SESSION

COURSE CODE: BCH 413

COURSE TITLE: ENZYME BIOTECHNOLOGY

DURATION: 2 HOURS

HOD'S SIGNATURE

M. S. O. O.

TOTAL MARKS: 60

INSTRUCTIONS: Answer Question 1 and ANY other 3

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1. What do you understand by the following in the study of enzymes?
 - a. The lock and key hypothesis
 - b. The Induced fit hypothesis
 - c. Substrate
 - d. Cofactors
 - e. Inhibitors

2.
 - a. Microbes are preferred to plants as sources of enzymes for industries. Explain
 - b. State and explain different phases of microbial growth
 - c. Discuss the factors that influence microbial growth
 - d. Differentiate between primary and secondary metabolites giving one example each

3. Write on the following steps in a biotechnological process:
 - a. Downstream processing
 - b. Upstream processing
 - c. Fermentation

4.
 - a. Differentiate between intracellular and extracellular enzymes.
 - b. Discuss how you will isolate and purify an extracellular enzyme from batch culture fermentation

5. Write on application of named enzymes in the following industries:
 - a. Food
 - b. Detergent
 - c. Pharmaceutical
 - d. Textile

6.
 - a. What are immobilized enzymes?
 - b. State some benefits of enzyme immobilization
 - c. Explain entrapment immobilization and state some of its challenges