

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

RESIT/SPECIAL EXAMINATION

EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF SCIENCE IN FOOD
SCIENCE AND TECHNOLOGY

FOST 425: APPLICATION OF ENZYMES IN FOOD

STREAMS: BSC FOST

TIME: 2 HOURS

DAY/DATE: THURSDAY 12/08/2021
P.M.

2.30 P.M – 4.30

INSTRUCTIONS

- Answer all questions in section A and any other two questions in section B

SECTION A (30 MARKS)

1. Describe factors that affect enzyme activity during production of beer. (5 marks)
2. Explain the precautions to be put in place during production of enzyme under submerged fermentation (5 marks)
- 3 a) All enzymes are protein in nature but not all proteins are enzymes. Justify this statement with specific examples (4 marks)
- b) Explain the difference between protein engineering and genetic engineering with respect enzyme technology (4 marks)
- 4a) With a clear illustration, describe the structure of a DNA (5 marks)
- b) Describe major ways in which enzymes may be immobilized (5 marks)

c) Why would you recommend the use of enzymes in food industry (2 marks)

SECTION B (40 MARKS)

5a) Discuss the process production of pure enzyme using solid state fermentation (15 marks)

Discuss the advantages and disadvantages of immobilizing enzymes in food industry

(5 marks)

6a) Discuss advantages and disadvantages of using enzyme in food industry. (10marks)

b) Describe the differences between extracellular and intracellular enzymes. (10 marks)

7a) Discuss the tools that facilitate effective genetic engineering in enzyme technology. (12 marks)

b) Discuss the importance of enzymes in the current world. (8 marks)
