

KATHMANDU UNIVERSITY
End Semester Examination
February, 2025

Level : B.Tech.
Year : III
Time : 2 hrs. 30mins.

Course : BIOT 308
Semester : II
F. M. : 55

10 FEB 2025

SECTION "C"
[3 Q. × 8 = 24 marks]

Attempt ANY THREE questions.

1. Define enzymes. Explain the remarkable properties of enzymes with examples.
2. Derive the Michaelis-Menten kinetic equation with steady state model.
3. Explain the mechanism of enzymatic action of Chymotrypsin.
4. Explain the various types of enzyme inhibitors. Derive a simple kinetic model/ equation for the enzyme inhibition.

SECTION "D"

Attempt ANY SIX questions. (Q.N. 5 is compulsory)

5. Write short notes on [2×3=6]
 - a. Catalytic efficiency
 - b. Enzyme cofactor
6. What are the different methods for the determination of molecular weight of an enzyme? Explain any one method. [5]
7. Explain how kinetic parameters can be determined using Lineweaver-Burk plots [5]
8. Explain the acid hydrolysis methods for the determination of amino acid composition of an enzyme. [5]
9. Draw a schematic diagram for steps involved in the purification of adenylate kinase from pig muscles. [5]
10. What are the different sources of enzymes? Explain in brief. [5]
11. Explain the significance of Michaelis constant (K_m) and turnover number (K_{cat}) [5]