

**BBCCT-107**

**ASSIGNMENT BOOKLET**

**Bachelor's Degree Programme  
B.Sc. Hons in Biochemistry (BSCBCH)**

**ENZYMES**

**Valid from 1<sup>st</sup> Jan, 2025 to 31<sup>st</sup> Dec, 2025**



**School of Sciences  
Indira Gandhi National Open University  
Maidan Garhi  
New Delhi-110068  
(2025)**

Dear Student,

Please read the section on assignments in the Programme Guide for B. Sc. (Hons) Biochemistry that we sent you after your enrolment. A weightage of 30 per cent, as you are aware, has been earmarked for continuous evaluation, **which would consist of one tutor-marked assignment** for this course. The assignment is in this booklet, and it consists of two parts, Part A and B. It covers all blocks of the course. The total marks of all the parts are 100, of which 35% are needed to pass it.

### Instructions for Formatting Your Assignments

Before attempting the assignment please read the following instructions carefully:

- 1) On top of the first page of your answer sheet, please write the details exactly in the following format:

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**ROLL NO.:** .....

**NAME:** .....

**ADDRESS:** .....

.....

.....

**COURSE CODE:** .....

**COURSE TITLE:** .....

**ASSIGNMENT NO.:** .....

**STUDY CENTRE:** ..... **DATE:** .....

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**PLEASE FOLLOW THE ABOVE FORMAT STRICTLY TO FACILITATE EVALUATION AND TO AVOID DELAY.**

- 2) Use only foolscap size writing paper (but not of very thin variety) for writing your answers.
- 3) Leave 4 cm margin on the left, top and bottom of your answer sheet.
- 4) Your answers should be precise.
- 5) Solve Part (A) and Part (B) of this assignment, and **submit the complete assignment answer sheets within the due date.**
- 6) The assignment answer sheets are to be submitted to your Study Centre within the due date. **Answer sheets received after the due date shall not be accepted.**

**We strongly suggest that you retain a copy of your answer sheets.**

- 7) This assignment is **valid from 1<sup>st</sup> Jan, 2025 to 31<sup>st</sup> Dec, 2025**. If you have failed in this assignment or fail to submit it by Dec, 2025, then you need to get the assignment for the year 2025-26, and submit it as per the instructions given in the Programme Guide.
- 8) **You cannot fill the examination form for this course** until you have submitted this assignment.

We wish you good luck.

# ASSIGNMENT

## Enzymes Core Course in Biochemistry

Course Code: BBCCT-107  
Assignment Code: BBCCT-107/TMA/2025  
Maximum Marks: 100

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Note: Attempt all questions. The marks for each question are indicated against it. Write all answers in your own words; do not copy from the course material.

### PART-(A)

**(50)**

1. Write short note on the following terms: (2.5\*4=10)
  - a) Characteristics of Enzymes
  - b) Apoenzyme
  - c) Coenzyme
  - d) Turnover number
  
2.
  - a) Give an overview of transition state theory of enzyme. (5)
  - b) Describe the effect of pH on enzyme activity? (5)
  
3.
  - a) Explain Fischer lock and Key Hypothesis. (5)
  - b) Derive Lineweaver Burk equation from Michaelis Menten equation? (5)
  
4. Differentiate between: (5+5=10)
  - a) Ordered and Random mechanism for Bisubstrate reactions.
  - b) Ligases and Lyases
  
5. Derive Michaelis-Menten equation for an uncompetitive inhibitor. (10)

### PART-(B)

**(50)**

6.
  - a) Explain the Strain and Distortion catalysis mechanism of enzyme. (5)
  - b) Describe reversible covalent modification of enzymes for regulating enzyme activity. (5)
  
7.
  - b) Write short notes on the following: (5\*2=10)
    - i) PLP coenzymes
    - ii) TPP.
  
8. What are multienzyme complexes? Give examples and describe their properties. (10)
  
9. Discuss application of enzymes in the following: (5+5 =10)
  - i) Wine industry
  - ii) Baking industry
  
10. Explain the following methods of enzyme immobilization (5+5 =10)
  - i) Cross Linking
  - ii) Gel Entrapment

