

**BBCCT-107**

**ASSIGNMENT BOOKLET**

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

**ENZYMES**

**Valid from 1<sup>st</sup> Jan, 2021 to 31<sup>st</sup> Dec, 2021**



**School of Sciences  
Indira Gandhi National Open University  
Maidan Garhi  
New Delhi-110068  
(2020-2021)**

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:** .....

.....

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**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, 2021 to 31<sup>st</sup> Dec, 2021**. If you have failed in this assignment or fail to submit it by Dec, 2021, then you need to get the assignment for the year 2022-23, 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/2021  
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. Define the following terms: (2\*5=10)
  - a) Cofactor
  - b) Turnover number
  - c) Michaelis Menten constant
  - d) Ligase
  - e) Enzyme inhibition
2. a) Distinguish between Isomerases and Lyases enzymes. (5)  
b) What is the effect of pH on enzyme activity? (5)
3. a) Explain Fisher Lock and Key Hypothesis. (5)  
b) What is Lineweaver Burk equation? Draw its plot? (5)
4. Differentiate between: (5+5=10)
  - a) Ordered and Random sequential mechanism.
  - b) Reversible and Irreversible enzyme inhibitors
5. Derive Michaelis-Menten equation. (10)

### PART-(B)

(50)

6. a) Explain the effect of proximity and orientation mechanism of enzyme. (5)  
b) What are metal activated enzymes? (5)
7. a) How end product of the enzyme catalyzed reaction regulates its formation? (5)  
b) Distinguish between concerted and cumulative feedback inhibition. (5)
8. What are isoenzymes? Give examples and discuss their physiological role. (10)
9. Discuss application of enzymes in the following: (5+5 =10)
  - i) Medicine
  - ii) Food industry
10. Explain the following methods of enzyme immobilization (5+5 =10)
  - i) Gen entrapment
  - ii) Cross-linking

