

# **ASSIGNMENT BOOKLET**

**Bachelor (Honours) Degree in BIOCHEMISTRY (BSCBCH)**

## **TOOLS AND TECHNIQUES IN BIOCHEMISTRY**

**Valid from 1<sup>st</sup> January, 2024 to 31<sup>st</sup> December, 2024**

**Last date for the assignment submission is on or before 31<sup>st</sup> December, 2024.**



**School of Sciences  
Indira Gandhi National Open University  
Maidan Garhi, New Delhi-110068**

Dear Student,

Please read the section on assignments in the Programme Guide of B.Sc. (Hons.) Biochemistry (BSCBCH) that we sent you after your enrolment. A weightage of 30 percent, as you are aware, has been earmarked for continuous evaluation, **which would consist of one tutor-marked assignment** for this course. The assignment in this booklet has one section which covers all units of the course. The total marks of assignment is 50, of which 35% are needed to pass it.

**SPECIFIC INSTRUCTIONS FOR TUTOR MARKED ASSIGNMENTS (TMA)**

- 1) Write your Enrolment Number, Name, Full Address, Signature and Date on the top right-hand corner of the first page of your response sheet.
- 2) Write the Programme Title, Course Code, Course Title, Assignment Code and Name of your Study Centre on the left-hand corner of the first page of your response sheet.

**Course Code and Assignment Code may be reproduced from the assignment.**

The top of the first page of your response sheet should look like this:

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**ENROLMENT NO.:**

<b>PROGRAMME TITLE</b>	: .....	<b>NAME:</b>	.....
<b>COURSE CODE</b>	: .....	<b>ADDRESS:</b>	..... .....
<b>COURSE TITLE</b>	: .....		.....
<b>ASSIGNMENT CODE</b>	: .....	<b>SIGNATURE:</b>	.....
<b>STUDY CENTRE</b>	: .....	<b>DATE:</b>	.....

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

- 3) Use only foolscap size writing paper (but not of very thin variety) for writing your answers.
- 4) Leave 4 cm margin on the left, top and bottom of your answer sheet.
- 5) Your answers should be precise.

- 6) Solve questions of the assignment, and submit the complete assignment answer sheets within the due date.
- 7) The assignment answer sheets are to be submitted to your Study Centre within the due date.
- 8) Answer sheets received after the due date shall not be accepted.
- 9) We strongly suggest that you retain a copy of your answer sheets.
- 10) **This assignment is valid from 1<sup>st</sup> January, 2024 to 31<sup>st</sup> December, 2024.** If you have failed in this assignment or fail to submit it by 31<sup>st</sup> December, 2024, then you need to get the assignment for the year 2025, and submit it as per the instructions given in the Programme Guide.
- 11) You cannot fill the exam form for this course till you have submitted this assignment.

We wish you good luck!

# Assignment

## Tools and Techniques in Biochemistry

Course Code: **BBCS-183**  
Assignment code: **BBCS-183/TMA/2024**  
Maximum marks: **50**

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**Note: Attempt all questions. The marks for each question are indicated against it. Write all answers in your own words.**

1. Define the following terms: [2x5=10]
  - i) Mole
  - ii) Normality
  - iii) Zwitterions
  - iv) Stock shift
  - v) Reverse osmosis
  
2. Calculate how much quantity of substance would be needed to make following solutions: [2.5X4=10]
  - (i) 10mL of 0.05M NaOH      (ii) 10mL of 0.5N KOH
  - (iii) 0.9% NaCl                (iv) 5mL of 0.5% HCL
  
3. (a) Explain how does distillation method purify impurities from water. [5]  
(b) Write the Laboratory safety rules. [5]
  
4. (a) Describe the instrumentation of spectrophotometry. [5]  
(b) What is Beer-Lambert Law? Explain [5]
  
5. Write short notes on the following: [5+5=10]
  - (a) Role of virtual lab in Biochemistry
  - (b) Buffer