

BBCS-183

ASSIGNMENT BOOKLET

Bachelor (Honours) Degree in BIOCHEMISTRY (BSCBCH)
TOOLS AND TECHNIQUES IN BIOCHEMISTRY

Valid from 1st July, 2021 to 30th June, 2022

Last date for the assignment submission is on or before 30th June 2022.



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 100, 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:

ENROLMENT NO.:

PROGRAMME TITLE	:	NAME:
COURSE CODE	:	ADDRESS:
COURSE TITLE	:
ASSIGNMENT CODE	:	SIGNATURE:
STUDY CENTRE	:	DATE:

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 1st July, 2021 to 30th June, 2022.** If you have failed in this assignment or fail to submit it by June, 2022, then you need to get the assignment for the year 2022-23, 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/2021-2022**
Maximum marks: **100**

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) Normality
 - ii) Molarity
 - iii) Electromagnetic spectrum
 - iv) Zwitterion
 - v) Stock shift

2. (a) Distinguish between the followings: [5+5=10]
 - (i) Glass pipette and Micropipette
 - (ii) Beer's Law and Lambert's Law

(b) What is distilled water? Describe methods of water purification with suitable diagram. [20]

3. (a) Write the roles of following component in a spectrophotometer: [2.5X4=10]
 - i) Light source
 - ii) Monochromator
 - iii) Cuvette
 - iv) Detector

(b) Define the pH meter with the schematic diagram. Explain how does it work. [20]

4. (a) Calculate how much quantity of substance would be needed to make following solutions: [2.5X4=10]
 - (i) 100mL of 0.1M NaOH
 - (ii) 500mL of 0.1N H₂SO₄
 - (iii) 50 ml of 5% Sugar solution
 - (iv) 70% ethanol

(b) What is virtual labs? describe its importance and application in modern science education. [10]

5. Write short notes on the following: [5+5=10]
 - (i) Safety measures in laboratories
 - (ii) Properties of Good buffers system