

BBCCT-103

ASSIGNMENT BOOKLET

B.Sc. (Major) Biochemistry (BSCFBC)

CELL BIOLOGY

Valid from 1st January, 2025 to 30st December, 2025

Last date for the assignment submission is on or before 31st December, 2025



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

Dear learners,

Please read the section on assignments in the Programme Guide for Core Courses 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 total marks of all the parts are 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.

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

- Solve questions of the assignment, and submit the complete assignment answer sheets within the due date.
- 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.
- **This assignment is valid from 1st January, 2025 to 31th December, 20245.If you have failed in this assignment or fail to submit it by December, 2025, then you need to get the assignment for the year 2026,** and submit it as per the instructions given in the Programme Guide.
- You cannot fill the exam form for this course till you have submitted this assignment.

We wish you good luck!

ASSIGNMENT

Cell Biology

Course Code: **BBCCT-103**

Assignment code: **BBCCT-103/TMA/2025**

Maximum marks: **100**

Note: Attempt all the questions. Write the answers in your own words; do not copy from the course material. Draw the figures/flowcharts/tables wherever required.

1. Explain the fundamental principles of cell theory. Compare and contrast the structural and functional differences between prokaryotic and eukaryotic cells. 10
2. Describe basic theory, basic components and applications of confocal microscopy. 10
3. What is electron microscopy? Explain how does this microscopy differ from light microscopy? 10
4. Write about the different types of rotors and their applications. 10
5. Describe the structure and functions of the Golgi apparatus. 10
6. Discuss in detail about the cell wall composition of prokaryotic cell wall. 10
7. Elaborate the structure and roles of microtubules. 10
8. Explain the concept of signal sequences in protein targeting. Describe the process by which proteins are transported to the mitochondrial matrix. 5+5=10
9. (a) Differentiate between mitosis and meiosis. 5
(b) Explain how cyclin and cyclin dependent kinases regulate cell division. 5
10. Write short note on the following:
 - (a) Necrosis 5
 - (b) Fluorescence Activated Cell Sorting (FACS) 5