

BBYCT-131

ASSIGNMENT BOOKLET

Bachelor's Degree Programme

(BSCG)

Biodiversity (Microbes, Algae, Fungi and Archegoniates)

Valid from 1st January, 2025 to 31st December, 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. 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. 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:

ROLL NO.:

NAME:

ADDRESS:

.....

.....

COURSE CODE:

COURSE TITLE:

ASSIGNMENT NO.:

STUDY CENTRE:

DATE:

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 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 1st January, 2025 to 31st December, 2025.** 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.
- 8) **You cannot fill the examination form for this course** until you have submitted this assignment.

We wish you good luck.

ASSIGNMENT

Course Code: BBYCT-131
Assignment Code: BBYCT-131/TMA/2025
Maximum Marks: 100

Note: Attempt all questions. The marks for each question are indicated against it.

1. a) Give a brief account on lytic or lysogenic replication in viruses with suitable diagrams. (5×2=10)
b) Discuss the role of bryophytes as ecological indicators
2. a) Define heterospory. What is its biological significance? (5×2=10)
b) List the mechanisms of genetic exchange in bacteria and describe any one of them in detail.
3. a) Trace the development of female gametophytes in *Cycas*. (5×2=10)
b) Enumerate the medical value of Gymnosperms.
4. Differentiate between the following pairs of terms: (4×2 ½ =10)
 - i) Bacterial cell and Archaeal cell
 - ii) Liverworts and Mosses
 - iii) Transformation and Transduction
 - iv) Petrification and Compression
5. Prepare clear and well-labelled diagrams of the following: (4×2½ =10)
 - i) Clamp connection formation in Basidiomycetes.
 - ii) V.S. thallus through a gemma cup in *Marchantia*.
 - iii) T.S. needle of *Pinus*.
 - iv) L.S. microsporangium of *Selaginella*.
6. a) Describe the internal and external structure of a typical bacterium. (5×2=10)
b) Differentiate a bacterial cell from an archaeal cell.
7. a) Discuss different types of steles found in pteridophytes along with suitable diagrams. (5×2=10)
b) Briefly describe the economic importance of Pteridophytes or Gynosperms.
8. Prepare a detailed account of occurrence, morphology and ultrastructure in Cyanophyta. (10)

9. Define the transformation. How Griffith's experiment was carried out to discover bacterial transformation? (10)
10. Write notes on the following: (2 ½×4=10)
- i) Biofertilizer
 - ii) Polyembryony in gymnosperms
 - iii) Alternation of generations
 - iv) Coralloid roots of *Cycas*

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