

BBYCT-135

ASSIGNMENT BOOKLET

Bachelor's Degree Programme

(BSCM)

(Plant Anatomy and Embryology)

Valid from 1st January, 2026 to 31st December, 2026



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

(2026)

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%, 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 is of 100 marks, 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 2026 to 31st December, 2026.** If you have failed in this assignment or fail to submit it by December, 2026, then you need to get the assignment for next year, 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-135
Assignment Code: BBYCT-135/TMA/2026
Maximum Marks: 100

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

1. Define the following terms : (1×10=10)
 - i) Plastochron
 - ii) Polyspory
 - iii) Tuber
 - iv) Areole
 - v) Tylosis
 - vi) Stomatal complex
 - vii) Commensalism
 - viii) Cleistogamy
 - ix) Cheiroptherophily
 - x) Apomeiosis

2. Explain the different theories of root apical organization. (10)

3.
 - a) Describe in brief the various morphological and anatomical adaptations in xerophytes with diagrams. (5)
 - b) Describe chronologically the events that enable primary dicot root become secondary roots. Support your answer with suitable labeled diagrams. (5)

4.
 - a) How do mangroves remove salt? (5)
 - b) Trichomes play an important role in defense of plants. Explain the statement. (5)

5.
 - a) Three genes regulate the stages of flower development. Explain. (5)
 - b) How stigma helps in the process of pollen germination and guidance of pollen tube into the style? (5)

6.
 - a) What are endosperm haustoria? Describe the different types of endosperm haustoria. (5)
 - b) Name some of the important genes and factors regulating the development of embryo in Arabidopsis. (5)

7. Write a note on seed development and its structure. (10)

8.
 - a) What is parthenocarpy? Describe various types of parthenocarpy found in plants. (5)
 - b) Describe the type of pollination noted in *Salvia*. (5)

9. Differentiate between: (2×5=10)
 - i) Composite and ruminant endosperm
 - ii) Companion cell and albuminous cell
 - iii) Vascular and cork cambium

iv) Stomatal frequency and Stomatal index

v) Psychophily and hymenophily

10. Write short notes on:

(2½×4=10)

i) Double fertilization

ii) Pneumatophores

iii) Pollen sterility

iv) Suspensor