

**ASSIGNMENT BOOKLET**  
**Bachelor's Degree Programme (B.Sc.)**

**Plant Diversity-I**

**Valid from 1<sup>st</sup> January 2021 to 31<sup>st</sup> December 2021**

**It is compulsory to submit the Assignment before filling in the  
Term-End Examination Form.**

**Please Note**

- You can take electives '56 to 64' credits from a minimum of TWO and a maximum of FOUR science disciplines, viz. Physics, Chemistry, Life Sciences and Mathematics.
- You can opt for elective courses worth a MINIMUM OF 8 CREDITS and a MAXIMUM OF 48 CREDITS from any of these four disciplines.
- At least 25% of the total credits that you register for in the elective courses from Life Sciences, Chemistry and Physics disciplines must be from the laboratory courses. For example, if you opt for a total of 64 credits of electives in these 3 disciplines, at least 16 credits 'out of those 64 credits' should be from lab courses.
- You cannot appear in the Term-End Examination of any course without registering for the course. Otherwise, your result will not be declared and the 'responsibility will be yours'.



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

**(2021)**

Dear Student,

We hope you are familiar with the system of evaluation to be followed for the Bachelor's Degree Programme. At this stage you may probably like to re-read the section on assignments for Elective Courses in the Programme Guide 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 (TMA)** for this course.

### Instructions for Formatting Your Assignments

Before attempting the assignment please read the following instructions carefully.

- 1) On top of the first page of your TMA answer sheet, please write the details exactly in the following format:

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ENROLMENT NO.: .....

NAME : .....

ADDRESS .....

.....

COURSE CODE : .....

COURSE TITLE : .....

ASSIGNMENT NO.: .....

STUDY CENTRE : ..... DATE: .....

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**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) While solving problems, clearly indicate the question number along with the part being solved. Be precise.
- 6) **This assignment will remain valid for one year from January 1, 2021 to December 31, 2021.** However, you are advised to submit it within **12 weeks** of receiving this booklet to accomplish its purpose as a teaching-tool. Answer sheets received after the due date shall not be accepted.
- 7) **You cannot fill the exam form for this course until you have submitted this assignment.**

**We strongly feel that you should retain a copy of your assignment response to avoid any unforeseen situation and append, if possible, a photocopy of this booklet with your response.**

We wish you good luck!

## ASSIGNMENT (Tutor Marked Assignment)

Course Code: LSE-12  
Assignment Code: LSE-12/TMA/2021  
Max. Marks: 100

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1. Answer the following questions: (2×5=10)
  - i) What are the differences between living and non-living things?
  - ii) Differentiate between Prokaryotes and Eukaryotes.
  - iii) Write down the names of the five Kingdoms of living organisms and their divisions.
  - iv) Mention the features common between the bryophytes and the pteridophytes.
  - v) Describe with the help of a diagram the life cycle of *Chlamydomonas*.
  
2. Explain the following terms with proper labelled diagram: (2×5=10)
  - i) Clamp connection
  - ii) Carinal canals
  - iii) Calyptra
  - iv) *Anabaena* - *Azolla* association
  - v) Elaters
  
3. Prepare a detailed account on heterospory under the headings – definition, two examples, incipient heterospory, biological significance, and evolution of seed habit. (10)
  
4. Answer the following questions: (2½×4=10)
  - i) Explain the ecological role of bryophytes as pioneers of vegetation and in inhibiting soil erosion
  - ii) Why are the cyanobacteria of great evolutionary interest?
  - iii) Can life exist at temperature more than 100°C? If so, provide some examples.
  - iv) Why are the bryophytes considered as the amphibians of the plant kingdom?
  
5. With clear and labelled diagrams depict the following: (4×5=20)
  - i) Morphological structure of a thallus of *Fucus*
  - ii) Cross section of an apothecium
  - iii) Vertical transverse section of a thallus of *Anthoceros* showing mucilage canals
  - iv) A portion of t.s. of internode of an aerial fertile branch of *Equisetum*

6. Explain the basic types of life cycles in Algae by giving examples and labelled diagrams. (8+2=10)
7. Discuss the concept of alternation of generation in Fungi With the help of a suitable example. (8+2=10)
8. Write detailed answers to the following questions. (2×10=20)
- i) Discuss the range of forms found in fungi. Also describe their general morphological features and habitats
  - ii) Draw labelled diagrams of L.S. of sporophytes of *Riccia* and *Sphagnum* and compare their structures