

**M.Sc. 1st Semester Examination, 2011**

**BOTANY**

**PAPER—BOT-101**

*Full Marks : 40*

*Time : 2 hours*

**Answer all questions**

*The figures in the right-hand margin indicate marks*

*Candidates are required to give their answers in their own words as far as practicable*

**Write the answers to questions of each Unit in separate books**

**UNIT—1**

**[ Marks—20 ]**

**1. Answer any four questions : 1 x 4**

**(a) What is a nucleomorph ?**

**(b) Name an euglenoid heterotroph genus.**

*( Turn Over )*

- (c) Define the sarcinoid condition with example of a genus.
- (d) Why is the flagellum considered a primitive character ?
- (e) Which property of alginate does make it useful for paint industry ?
- (f) How can a dead microalgae enrich soil fertility ?

2. Answer any *two* of the following : 4 x 2

- (a) How are different species of algae useful in aquaculture ?
- (b) Explain the use of single copy DNA-DNA hybridization in studying algal phylogeny.
- (c) Briefly write the role of algae in reclaiming soil fertility.
- (d) Give a note on the chemistry, source and use of alginic acid.

3. Characterize the division Prochlorophyta. Comment on the enigmatic phylogenetic position of this taxon. 6 + 2

*Or*

Why morphological parameters are not effective in understanding algal phylogeny? Enumerate the macromolecules significant for studying phylogeny in algae. Give a brief account of the outcome of molecular studies in algae.

2 + 1 + 5

UNIT-2

[ Marks - 20 ]

4. Answer any *four* questions : 1 x 4
- (a) Who is the father of bryology in India?
  - (b) Define bryomonitor.
  - (c) What is diplolepidous moss? Give an example.
  - (d) Which liverwort has no epidermal air pore?
  - (e) What is amphigasteria?
  - (f) Name one SO<sub>2</sub> tolerant bryophyte.

5. Write short notes (any two) : 4 x 2

(i) Salient features of Marchantiophyta.

(ii) Mechanism of metal tolerance in bryophyte

(iii) Systematic position and affinities of Calobryales.

(iv) Ecotypes in bryophytes.

6. What are the basic differences between modern and traditional system of classification of bryophyta? Mention the outline of traditional bryophyte classification of Proskauer (1957) upto order level.

4 + 4

3 days to

Or

10000

State the taxonomic implications of chromosome numbers in bryophytes.

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