PG/IS/BOT-101/12

M.Sc. 1st Semester Examination, 2012

BOTANY

PAPER—BOT-101

Full Marks : 40

Time : 2 hours

The figures in the right-hand margin indicate marks

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

Illustrate the answers wherever necessary

Write the answers to questions of each Unit in separate books

UNIT – I

[*Marks* : 20]

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

(*a*) What is Mastigoneme ?

(*b*) What is the constituent of eye spot ?

(*c*) How are the thylakoids of Prochlorophyta arranged ?

(*d*) Define Phycoplast.

(*e*) How does algae make phosphorus available in soil ?

(*f*) What is pellicle ?

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

(*a*) Briefly state the significance of SCP as a food source mentioning its drawbacks, measures to overcome them and the role of algae in SCP production.

(*b*) Explain parallelism in algae and significance of its occurrence with the aid of examples.

(*c*) Contrast the characteristic features of Euglenophyta and Chlorophyta. Comment on the uniqueness of Euglenophyta with respect to its nutritional abilities.

(*d*) Write briefly the chemical nature, source of origin and economic use of Carageenan.

3. Why ultrastructures are given much importance than macrostructures in algal classification ? Write a brief note with suitable examples on the use of different ultrastructures in classifying algae. 2 + 6

Or

Write the salient features of Rhodophyta. Name the other divisions close to if and state the parameters showing closeness. 5 + 1 + 2

UNIT – II

[*Marks* : 20]

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

(*a*) Define 'hydroid' and 'Leptroid'.

(*b*) What is hyaline cell ? Give an example.

(*c*) Define 'basal bryophyte'. Give an example.

(*d*) What is 'Giemsa' stain ? Mention it function.

(*e*) Name two species of sphagnum which grow in the aquatic condition.

(*f*) How many chromosomes are in Takakia ?

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

(*i*) *Sphagnum* a true moss : Comment

(*ii*) Heteromorphic alternation of generation

(*iii*) Systematic position and affinities of Takakiales

(*iv*) '*m*' chromosome

(*v*) Heteochromatin in bryophytes.

6. Define biotechnology of bryophytes. What kind uses of bryophytes in the light of biotechnological process ? Explain any two uses with example. 2 + 3 + 3

Or

What is bryo-monitoring ? Why bryophytes are used as indicator ? How environmental pollutants could affect bryophytes ? 2 + 2 + 4