PG/IS/BOT-101/14

M.Sc. 1st Semester Examination, 2014

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

Use separate answers script for each Unit

UNIT – I

(*Phycology*)

[*Marks* : 20]

1. Answer any *four* questions from the following : 1 × 4

(*a*) What is Mastigoneme ?

(*b*) Which part of agar-agar is responsible for gelling property ?

(*c*) Name a pheromone available in brown algae.

(*d*) What is the uniqueness of the chloroplast of Glaucophyta ?

(*e*) Mention two basic features needed for SCP excluding its protein constituent.

(*f*) Give two points to explain how algae ameliorate soil fertility.

2. Write short notes on any *two* of the following : 4×2

(*i*) What is carageenan ? Give two examples of it. Write a brief note on its use. $1 + 1 + 2$

(*ii*) What is squirming movement in euglenoids ? Describe briefly the structure responsible for it. $2 + 2$

(*iii*) What are semantids ? Give an example of it which is effectively used in algae

classification. State briefly the contribution of the semantid mentioned by you. 1 + 1 + 2

(*iv*) Write a note on the causes of soil infertility. Mention different types of infertile soil based on the gravity of amelioration. 2 + 2

3. Mention the salient features of Rhodophyta. How do the cells of the members of it behave like animal cells ? What is the ploidy status of carposporophyte ? Why is the taxon considered close to Cyanophyta and Glaucophyta ?
4 + 1 + 1 + 2

Or

What is endosymbiotic theory ? What is the significance of two extra endoplasmic reticular membranes surrounding the chloroplast ? Give an example having chloroplast with two extra membranes. Give a brief note on the use of different ultra structural features of flagellum in algae classification. 2 + 1 + 1 + 4

UNIT – II

(*Bryology*)

[*Marks* : 20]

4. Answer any *four* questions from the following : 1 × 4

(*a*) Name one highly pollution sensitive bryophytes.

(*b*) Define 'ecotypes' in Bryophytes.

(*c*) What is 'm' chromosome ? Mention its function.

(*d*) What do you mean by stegocarpic moss ?

(*e*) Name one SO_2 tolerant Bryophyte.

(*f*) Who discovered alternation of generation in Bryophytes and in which year ?

(*g*) Name one fossil Bryophyte.

(*h*) Name one 'copper' moss.

5. Write short notes on any *two* of the following : 4×2

   (*i*) Heterochromatin in Bryophyte.

   (*ii*) Major terpinoids and Flavonoids in Bryophytes

   (*iii*) Mention the evolutionary history of Bryophyta in short.

   (*iv*) Phylogenetic status of Takakiales.

6. How many types of chromosomes are found in Bryophytes ? Name one Bryophyte which have lowest chromosome number. Mention the taxonomic implication of chromosome number with the help of phyletic scheme proposed by Smith (1978). $2 + 2 + 1 + 3$

Or

Write the recent system of classification in Bryophyte. Who first introduced recent system

of classification ? Mention the year of introduction. What are the basic differences between traditional and current system of classification ? 4 + 1 + 3
