

**M.Sc. 1st Semester Examination, 2019**

**BOTANY**

**PAPER –BOT-102(Unit-I + II)**

*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 Units in separate books**

**UNIT – I**

*( Phycology )*

**[ Marks : 20 ]**

1. Answer any *two* questions : 2 × 2

(a) State the unique arrangement of chlorophyll

*( Turn Over )*

bearing structure in Cyanophyta. Mention two accessory pigments of this taxon. 1 + 1

(b) Name one pathogenic algae causing human disease and another one causing plant disease. 1 + 1

(c) Mention the basic concept of endosymbiotic origin of organelles and the significance of variable number of covering surrounding chloroplast. 1 + 1

(d) What is mastigoneme? State its basic features. 1 + 1

2. Answer any *two* questions : 4 × 2

(a) Write a short note on single cell protein. 4

(b) Contrast cyanophyta, chlorophyta and Heterokontophyta with respect to the pigment systems, their location and placement of storage food inside cell. 4

(c) How is soil reclamation done by using algae? 4

( 3 )

(d) What is green water technology ? Name two algae used in it, mention the utilities of this technology in pisciculture. 1 + 1 + 2

3. Answer any *one* question : 8 × 1

(a) What are phycocolloids ? Give a brief account of algal sources, chemistry and uses of alginic acid. 2 + 6

(b) Characterize Heterokontophyta. Highlight two distinguishing features of it as contribution of electron microscopic understanding. 6 + 2

## UNIT – II

( *Bryology* )

[ Marks : 20 ]

4. Answer any *two* questions : 2 × 2

(a) Name a "*rhizoidless*" liverwort.

(b) What is the full form of "GABA" ?

- (c) Name two epidermal '*poreless*' liverworts.
- (d) Name two mosses which have '*Lignin*' like substance.

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

(i) Bryomonitoring of environmental pollution

(ii) Calobryales-affinities and systematic position

(iii) Very sensitive and less sensitive bryophytes in air pollution.

(iv) Mention the factors responsible for affecting the degree of damage from pollutants.

6. Answer any *one* question : 8 × 1

(a) What are the basic differences between traditional and current system of classification of bryophytes ? Write the current system of classification with merits and demerits.

3 + 3 + 2

(b) What are the basic differences between primary and secondary metabolites in bryophytes? Mention the secondary metabolites and its applications in taxonomy. Name a "anthocyanin" producing bryophyte.

3 + 4 + 1

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