2016

BOTANY

(Major)

Paper : 1.1

Full Marks : 60

Time : 3 hours

The figures in the margin indicate full marks for the questions

1. Fill in the blanks with appropriate word(s) : 1×7=7

(a) Leaf-like structure of multicellular alga is called _____.

(b) In *Coleochaete*, the oogonium bears a protuberance called _____.

(c) Algin, a thickener, used in ice cream and cake decoration is extracted from _____ algae.

(d) _____ is the reserved food material found in Cyanophyceae.

(e) Function of haustoria in fungi is _____.

(f) Crozier formation is observed in _____.

(g) Reserved food material in plants is _____.

2. Define the following terms : 2×4=8

(a) Teleomorph

(b) Anisogamy

(c) Phylogeny

(d) Symbiosis

3. Write briefly on any *three* of the following : 5×3=15

(a) Haplodiplontic life cycle

(b) Degeneration of sex in fungi

(c) Algal bloom

(d) Lichen

(e) Lithotrophs

4. Answer any *three* of the following : 10×3=30

(a) Discuss the utility of pigments and reserved food materials in the classification of algae. 10

(b) Explain the thallus structure and life cycle of *Volvox* with suitable diagrams. 4+6=10

(c) Write the systematic position and economic importance of *Saccharomyces*. Give a diagrammatic representation of the life cycle of *Saccharomyces* with proper labelling. 2+3+5=10

(d) Give an outline of different modes of nutrition found in plant kingdom with suitable examples. 10

(e) What are the distinguishing features of Cyanophyceae? Give an idea about the ecological and agricultural importance of blue-green algae. 5+5=10

★★★

2016

BOTANY

(Major)

Paper : 1.2

Full Marks : 60

Time : 3 hours

The figures in the margin indicate full marks for the questions

1. Choose the correct answer : 1×7=7

(a) Elaters in bryophytes help in

(i) assimilation of CO_2

(ii) dispersal of spores

(iii) vegetative reproduction

(iv) sexual reproduction

(b) Which of the following steles is considered to be the most primitive?

(i) Haplostele

(ii) Plectostele

(iii) Solenostele

(iv) Dictyostele

(c) Presence of peltate sporangium is a characteristic feature of

(i) Lycopsida
(ii) Pteropsida
(iii) Sphenopsida
(iv) Psilopsida

(d) Elongated sporogonium is a characteristic of

(i) *Riccia*
(ii) *Marchantia*
(iii) *Sphagnum*
(iv) *Anthoceros*

(e) Which of the following bryophytes shows *Nostoc* colonies in the thallus?

(i) *Riccia*
(ii) *Marchantia*
(iii) *Sphagnum*
(iv) *Anthoceros*

(f) *Sphagnum* is commonly known as

(i) reindeer moss
(ii) cow moss
(iii) common moss
(iv) peat moss

(g) Which of the following structures does not occur in *Selaginella*?

(i) Ligule
(ii) Ramenta
(iii) Trabecula
(iv) Rhizophore

2. Distinguish between the following : 2×4=8

(a) Eusporangiate and Leptosporangiate types of development of sporangia

(b) Prothallus and Protocorm

(c) Haplostele and Mixed protostele

(d) Homospory and Heterospory

3. Write short notes on any *three* of the following : 5×3=15

(a) Heterospory and seed habit

(b) Sporocarp of *Marsilea*

(c) Water absorption and retention mechanism in *Sphagnum*

(d) Economic importance of Bryophyta

(e) Rhizophore of *Selaginella*

4. Answer the following questions : 10×3=30

(a) Give an account of the morphology and reproduction of *Psilotum nudum.* 10

Or

Discuss the telome theory of evolution of sporophyte.

(b) What is meant by alternation of generation? Explain with reference to the life history of *Polytrichum.* 2+8=10

Or

Give a comparative account on the sporophytes of *Riccia, Marchantia* and *Anthoceros.* 10

(c) Give a general account on various methods of spore dispersal in bryophytes. 10

Or

Compare and contrast among the spore-bearing organs of *Lycopodium, Selaginella* and *Equisetum* with labelled diagrams.

★★★