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3 (Sem 1) BOT M2

2015

BOTANY

(Major)

Paper : 1.2

Full Marks - 60

Time - Three hours

The figures in the margin indicate full marks for the questions.

1. Choose the correct answer of the following :

1×7=7

(a) Specialized reproductive bodies called gammae, produced in cup-like structures are found in —

- (i) Riccia
- (ii) Marchantia
- (iii) Anthoceros
- (iv) Polytrichum

[Turn over

(b) In which of the following genera, the thallus shows only diocious (heterothallic) habit

- (i) Marchantia
- (ii) Sphagnum
- (iii) Polytrichum
- (iv) In all

(c) In polytrichum, the operculum of the capsule is separated from the rest of the body of capsule by

- (i) a diaphragm
- (ii) annulus
- (iii) calyptra
- (iv) calumella

(d) In which of the following genera, the stele or steles of the stem are attached to the cortex by trabeculae

- (i) Lycopodium
- (ii) Equisetum
- (iii) Selaginella
- (iv) None of the above

(e) Sporocarps are the spore producing structure in the genus

(i) Adiantum

(ii) Equisetum

(iii) Marsilea

(iv) Psilotum

(f) In Lycopodium, xylem is always exarch where —

(i) protoxylem is placed towards periphery

(ii) protoxylem is placed towards centre

(iii) metaxylem is placed towards periphery

(iv) protoxylem and metaxylem are mixed

(g) Presence of peltate sporangiophores is characteristic feature of

(i) Lycopsidea

(ii) Pteropsida

(iii) Sphenopsida

(iv) Psilopsida

2. Distinguish between the following : $2 \times 4 = 8$

- (a) Homospory and heterospory
- (b) Liver worts and moss
- (c) Operculum and peristome
- (d) Haplostele and mixed protosteles

3. Write notes on any *three* of the following : $5 \times 3 = 15$

- (a) Types of prothallus in Lycopodium
- (b) Alternation of generation
- (c) Sporophyte of Anthoceros
- (d) Internal morphology of gametophyte in Marchantia
- (e) Morphology of rhizome in Selaginella
- (f) Strobilus of Equisetum

4. Answer the following questions :

- (a) Give a general account of the various methods of spore dispersal in Bryophyta.

10

Or

Describe with neat sketches the internal structure of the capsule of moss and explain the mechanism of its spore dispersal. $7+3=10$

- (b) Describe the life history of Marsilea with special reference to its reproductive structures. 10

Or

Write an account on heterospory and seed habit in pteridophytes. 10

- (c) Describe the life-history of polytrichum with neat sketches. 10

Or

Describe the life-history of Psilolum with neat sketches. 10