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3 (Sem-1) BOT M2

2021

(Held in 2022)

**BOTANY**

(Major)

Paper : 1:2

**(Bryophytes and Pteridophytes)**

Full Marks : 60

Time : Three hours

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

1. Choose and write the correct answer :

1×7=7

(a) Sphagnum is commonly known as

(i) reindeer moss

(ii) cow moss

(iii) common moss

(iv) peat moss

Contd.

- (b) In the life cycle of moss, which of the following generations is dominant?
- Haploid gametophyte
  - Diploid gametophyte
  - Haploid sporophyte
  - Diploid sporophyte
- (c) The phenomenon where two types of spores differing in size, structure and function are formed on the same plant is known as
- homospory
  - heterospory
  - apospory
  - apogamy
- (d) Development of sporophyte from the gametophytic tissue without involving fusion of gametes is known as
- apospory
  - apogamy
  - parthenogenesis
  - telome
- (e) The spore producing organs in Psilotum are called
- sporophyll
  - indusium
  - cone
  - syngangium

- (f) The thallus of Riccia is
- filamentous
  - dorsiventral
  - erect
  - climber
- (g) Which of the following steles is considered to be the most primitive?
- Haplostele
  - Plectosteles
  - Solenosteles
  - Dictyosteles

2. Distinguish between the following :

2×4=8

- Antheridiophore and Archegoniophore
- Tuberculate rhizoid and Smooth-walled rhizoid
- Rhizophore and Roots
- Protosteles and Siphonosteles

3. Write notes on **any three** of the following :

5×3=15

- Advanced features of sporophyte of Anthoceros
- Sporocarp of Marsilea

- (c) Economic importance of Bryophyta
- (d) Morphological nature of rhizophore of Selaginella
- (e) Stellar system in Lycopodium

4. Answer the following questions :  $10 \times 3 = 30$

- (a) Describe the evolution of sporophyte by progressive sterilization of potential sporogenous tissue in bryophytes.

**Or**

Give a general account on various methods of spore dispersal in bryophytes.

- (b) Write an account on heterospory and seed habit in pteridophytes.

**Or**

What is stele ? Describe various stellar systems found in Pteridophytes with suitable diagram.

- (c) Write an account on habit and habitat of Sphagnum. Describe its spore dispersal mechanism.  $5+5=10$

**Or**

"Psilotum is a living fossil." Justify the statement. 10