

M.Sc. BOTANY
First Semester (Repeat)
LOWER PLANT DIVERSITY-II
(MSB - 102)

Duration: 3Hrs.

Full Marks: 70

Part-A (Objective) =20
Part-B (Descriptive) =50

(PART-B: Descriptive)

Duration: 2 hrs. 40 mins.

Marks: 50

Answer any four from Question no. 2 to 8
Question no. 1 is compulsory.

1. Describe the vegetative reproduction of *Bryophytes* with diagrams. Write an illustrated account of the sporophyte of *Polytrichum*. (8+2=10)
2. With the help of suitable diagram, explain the structure of capsule in *Funaria*. Discuss its dehiscence also. (8+2=10)
3. What is protocorn? Explain briefly about the different type of prothallus and the economic importance of lycodium. Write about the ligule in selaginella. (1+4+3+2=10)
4. A. "*Anthoceros* is a synthetic genus". Justify it. (10)
Or
B. "*Anthoceros* as an association of primitive *Gametophytes* and advanced *Sporophyte*." Discuss. (10)
5. List the distinctive differences between liverworts and mosses. Describe the life cycle of *Sphagnum* with suitable diagrams. (2+8=10)
6. Describe the land plant characters of genus *Rhynia*. Write about the occurrence of genus *pilotum* and describe the anatomy of stem. (4+2+4=10)

7. Write short notes on: (*any two*)

(5+5=10)

(a) Gametophytic generation of *Marsilea*.

(b) Sporophyte of *Polytrichum*.

(c) Petiole of *Marsilea*.

8. Draw the life cycle of selaginella. Give the graphic representation of the life cycle of isoetes. (5+5=10)

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Duration: 20 minutes

Marks – 20

(PART A - Objective Type)

I. Choose the correct answer:

1×20=20

1. Sporangia are developed in *Equisetum* on:
(a) Upper surface of sporophylls (b) Sporangiphores
(c) Scale leaves (d) Lower surface of sporophyll
2. The genus lycopodium includes about _____ species.
(a) 700 (b) 10 (c) 20 (d) 200
3. Which one is the xerophytic species of pteridophyte?
(a) *Selaginallamonospora* (b) *Selaginalla oregano*
(c) *Selaginallapilifera* (d) *Selaginallaadunca*
4. Trabecule is a modified form of:
(a) Epidermis (b) Endodermis
(c) Cuticle (d) Inner cortex
5. The middle sterile part of *Funariacapsule* is known as:
(a) Columella (b) Apophysis
(c) Operculum (d) Spore sac
6. Modified leaves surrounding the archegonia of *Polytrichum* are called:
(a) perigonal leaves (b) perichaetial leaves
(c) paraphysis (d) none of the above
7. Columella is a part of:
(a) Capsule (b) Seta
(c) Foot (d) Rhizome
8. The columella of *Anthoceros* is:
(a) 4 celled (b) 8 celled
(c) 16 celled (d) 32 celled
9. Small resting buds developed on the rhizoids of *Funaria* is known as:
(a) Gemmae (b) Secondary protonema
(c) Bulbils (d) Chlorenema
10. The slime pores are found in:
(a) *Riccia* (b) *Marchantia*
(c) *Anthoceros* (d) *Sphagnum*

11. *Archegoniophore* is found in:
(a) *Riccia* (b) *Marchantia*
(c) *Anthoceros* (d) None of these
12. Pyrenoids are found in:
(a) *Marchantia* (b) *Anthoceros*
(c) *Polytrichum* (d) None of these
13. *Sphaerocarpos* belongs to the family:
(a) *Marchantiaceae* (b) *Sphaerocarpaceae*
(c) *Porellaceae* (d) *Calobryaceae*
14. Which of the following genus is also known as "peat moss"?
(a) *Sphagnum* (b) *Riccia*
(c) *Funaria* (d) *Polytrichum*
15. What comes out of *Marsileasporocarp* after dehiscence?
(a) Microspores.
(b) Megaspores.
(c) Both microspores and megaspores.
(d) Ring of gelatinous tissue containing soralsaca.
16. The type of attachment of pedicel with the petiole where Pedicels free or slightly connate and attached to the base of the petiole is found in:
(a) *M. Quadrifolia* (b) *M. minuta*
(c) *M. Subangulata* (d) *M. Polycarpa*
17. The intermediate types of prothalli found in:
(a) *LycopodiumPhlegmaria* (b) *Lycopodiumclavatum*
(c) *Lycopodiumselago* (d) *Lycopodiumserratum*
18. Which one is the epiphytic species of pteridophyte?
(a) *LycopodiumPhlegmaria*, (b) *Lycopodiumclavatum*
(c) *Lycopodiumselago* (d) *Lycopodiumserratum*
19. In *Selaginallakraussiana* the steler system found is:
(a) Monostelic (b) Distelic
(c) Polystelic (d) Both a & b
20. Sporocarp of *Marsilea* is:
(a) Unisporangiate (b) Bisporangiate
(c) Quadrisporangiate (d) Multisporangiate
