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Reg. No. : .....

Name : .....

First Semester M.Sc. Degree Examination, August 2021

Botany

BO 212 : BRYOPHYTA, PTERIDOPHYTA AND GYMNOSPERMS

(2019 Admission onwards)

Time : 3 Hours Max. Marks : 75

I. Answer the following questions.

1. Differentiate between simple and tuberculate rhizoids.
2. What is the role of protonema in the life cycle of moss plants?
3. What are leptoids?
4. Name the different species of *Rhynia*.
5. What are sori? Describe the sorus in *Angiopteris*.
6. Which fern is called as 'walking fern'? Why?
7. Which pteridophyte is nick named as Adders tongue? Why?
8. Why *Ginkgo biloba* is considered as a living fossil?
9. List out any two major Conifer affinities of Pentoxylon.
10. Why the endosperm in gymnosperms is haploid?

(10 × 1 = 10 Marks)

P.T.O.

II. Answer the following questions not in more than **50** words.

11. (a) 'The corm of *Isoetes* exhibits secondary thickening' Describe the salient features of the process.

OR

(b) What are retort cells? What is its function?

12. (a) Differentiate manoxylic and monoxylic condition.

OR

(b) Describe the salient features of the gametophyte of *Ophioglossum*.

13. (a) List the pteridophyte and gymnosperm characters shared by cycadofilicales.

OR

(b) Write an account on the economic importance of pteridophytes.

14. (a) Write an account on the medicinal uses of bryophytes.

OR

(b) What are tertiary spirals? How it affect wood quality?

15. (a) What is the difference between acrogynous and anacrogynous bryophytes?

OR

(b) With the help of examples differentiate between microphyllus and megaphyllous pteridophytes.

(5 × 2 = 10 Marks)

III. Answer the following questions in not more than **150** words.

16. (a) Describe the habit of *Sphenophyllum*.

OR

(b) What is an archesporium? How does it originate? What is its ultimate fate in the bryophytes studied by you?

17. (a) With the help of a diagram explain the structure of *Lepidocarpon*.

OR

(b) Discuss the use of Bryophytes as indicators of environmental pollution.

18. (a) Explain the morphology of reproductive structures in *Podocarpus*.

OR

(b) With the help of schematic representations explain the differences in the life cycles of homosporous and heterosporous pteridophytes.

19. (a) Differentiate between apospory and apogamy.

OR

(b) Describe the salient features of calobryales Discuss the affinities of the group.

20. (a) Describe the sori in *Trichomannes*.

OR

(b) Write a brief account on Sporne's system of classification of gymnosperms up to order.

21. (a) Give an illustrated account on the external and internal features of the gametophyte of porella.

OR

(b) Give a detailed account of the salient features of Gnetales that separate them from the rest of the gymnosperms.

22. (a) Write a comparative account of sporophytes of *Sphagnum* and *Polytricum*.

OR

(b) With the help of labeled diagrams differentiate between solenostele and dictyostele.

(7 × 5 = 35 Marks)

IV. Answer the following questions in not more than **250** words.

23. (a) Explain the development of female gametophyte in *Salvinia*. How it differs from that of *Azolla*?

OR

(b) Write an illustrated account on the sporophyte of *Anthoceras*. Why it is considered as the most advanced sporophyte among thalloid bryophytes? Discuss its affinities.

24. (a) What is objective of the telome theory? Elaborate on the elementary processes Proposed through the telome theory.

OR

(b) Using suitable labeled diagrams explain the morphology and life cycle of *Ephedra*.

(2 × 10 = 20 Marks)

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