Reg. No ..... Name **22U319**

B. Sc. DEGREE END SEMESTER EXAMINATION : OCTOBER 2022

SEMESTER 3 : BOTANY

COURSE : **19U3CRBOT3 : BRYOLOGY, PTERIDOLOGY, GYMNOSPERMS AND PALEOBOTANY**

(For Regular - 2021 Admission and Improvement / Supplementary - 2020 / 2019 Admissions)

Time : Three Hours Max. Marks: 60

PART A

Answer All (1 mark each)

1. Which genus is name as "Club Moss"?
2. Which era in geological time scale is known as age of reptiles?
3. Describe the antherozoid of Riccia.
4. What are cycads?
5. Define amphiphloeic siphonostele.
6. Why gymnosperms are called as 'Phanerogams without ovary'?
7. Name a large-sized species of Equisetum.
8. Name the smallest bryophyte

(1 x 8 = 8)

PART B

Answer any 6 (2 marks each)

9. What are gemma? Name a genus which produce gemmae?
10. Draw and label the H.L.S. of Marsilea Sporocarp.
11. Explain the anatomy of normal root in *Cycas.*
12. Describe types of rhizoids in Marchantia?
13. Explain Vallecular and Carinal canal.
14. Compare fibrovascular bundle and fibrous bundle in *Palmoxylon.*
15. Mention the xerophytic adaptaions of Equisetum.
16. Compare sympodial growth and monopodial growth.

(2 x 6 = 12)

PART C

Answer any 4 (5 marks each)

17. Explain the general characters of pteridophytes, and how it is differ from bryophytes.
18. Is the sporangial development in Lycopodium leptosporangiate or eusporangiate? Describe in brief the sporangium development in this genus.
19. Illustrate and explain the morphology of ovule in *Cycas.*
20. Give an account on the origin and evolutionary significance of gymnosperms.
21. Compare vegetative thallus of Marchantia with that of Anthoceros using suitable diagrams?
22. Give an account on geological time scale.

(5 x 4 = 20)

PART D

Answer any 2 (10 marks each)

23. With the help of suitable diagram give a comparative account of antheridia and archegonia in Riccia, Marchantia, and Funaria?
24. Differentiate the leaves of *Pinus* and *Cycas* with neat labeled diagram.

25. Write an essay on habit and habitat variation among the pteridophytes that you have studied.

26. Explain the morphology and reproduction of Selaginella with neat and labelled diagram.

(10 x 2 = 20)