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**SIIS-N 191 B-17**

**B.Sc. IIIrd Semester Degree Examination**

**BOTANY**

**(Pteridophytes, Gymnosperms, Paleobotany and Plant Anatomy)**

**Paper : 3**

**(New)**

Time : 3 Hours

Maximum Marks : 80

**Instructions to Candidates :**

- 1) Answer **all** Sections.
- 2) Draw **Diagrams** wherever necessary.

**SECTION -A**

**I. Answer any TEN of the following.**

**(10×2=20)**

1. What is Ligule? Mention its function?
2. What is transfusion tissue ? Mention its function?
3. What are motor cells? Mention their role?
4. Differentiate between protoxylem and metaxylem?
5. What are elaters? Mention their function?
6. What is amphiphloic siphonostele? Give an example?
7. Define paleobotany ? Name the father of Indian paleobotany.
8. Draw a neat labelled diagram of Gnetum ovule. (V.S)
9. What is chlorenchyma? Mention its functions.
10. What is prothallus? Mention its role.
11. Differentiate between Duramen and Alburnum.
12. Define geological time scale. Name any two eras.

**SECTION -B**

**II.** Answer any **FOUR** of the following **(4×5=20)**

13. Explain the internal structure of Marsilea petiole.
14. Describe the vertical section of Cycas ovule.
15. Explain the structure of Rhynia stem.
16. Explain the structure and functions of sclerenchyma.
17. Write a note on ground tissue system.
18. Explain the structure of equisetum cone.

**SECTION-C**

**III.** Answer any **FOUR** of the following **(4×10=40)**

19. Describe the anatomy of Gnetum leaf.
20. With a neat labelled diagram. Explain the internal structure of selaginella stem.
21. Describe the anatomy of Dicot stem.
22. Define Meristem. Explain the meristems based on their origin, position and functions.
23. What is anomalous secondary growth ? Explain anomalous secondary growth in Boerhavia stem.
24. Explain the following :
  - a) L.S. of pinus female cone.
  - b) Types of Vascular bundles.

