

Roll No. _____

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SIIS-N 191 B-16
B.Sc. IIIrd Semester Degree Examination
Botany
(Pteridophyta, Gymnosperms, Paleobotany and Plant Anatomy)
Paper : 3
(New)

Time : 3 Hours

Maximum Marks : 80

Instructions to Candidates:

1. *Answer all questions*
2. *Diagram will enhance the value of answers*

I. Answer any Ten of the following questions in one or more sentences (10×2=20)

- 1) What is circinate vernation? Name a gymnosperm in which it is found
- 2) What are sori? Name a plant in which these occur
- 3) What are vascular bundles? Where do you find bicollateral vascular bundles?
- 4) Name the canals present in Equisetum
- 5) What is heterospory? Give an example
- 6) Which phloem elements are lacking in Gymnosperms
- 7) What is prothallus? Mention its function
- 8) What are micro sporophylls? Give examples
- 9) What are tyloses?
- 10) What is a ligule? Mention its function
- 11) Write two differences between heartwood and sapwood
- 12) What is geological time scale

II. Answer any Four of the following questions. (4×5=20)

- 13) Describe T.S. of Lycopodium stem
- 14) Describe T.S. of pinus needle with neat labelled diagram
- 15) Explain the structure of a lenticel with neat labelled diagram and mention its function

- 16) Describe T.S. of Rhizome of Nephrolepis with neat diagram
- 17) Describe T.S. of Gnetum leaf with neat labelled diagram
- 18) Explain the structure of Calamites stem

III. Answer any Four of the following questions

(4×10=40)

- 19) Describe L.S. of selaginella - strobilus with neat labelled diagram
- 20) Define secondary growth. Describe stelar and extra - stelar secondary growth in dicot stem with neat labelled diagram
- 21) Explain the following
 - a) T.S. of monocot root
 - b) T.S. of dicot leaf
- 22) Describe L.S. of strobilus of Equisetum with neat diagram
- 23) Define meristem. Explain the meristems based on the position and development
- 24) Describe L.S. of Marsilea sporocarp with neat labelled diagram