

(7 pages)

Reg. No. :

Code No. : 7777

Sub. Code : WBOM 12

M.Sc. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2023.

First Semester

Botany – Core

PLANT DIVERSITY – II
(PTERIDOPHYTES, GYMNOSPERMS AND
PALEOBOTANY)

(For those who joined in July 2023 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (15 × 1 = 15 marks)

Answer ALL questions.

Choose the correct answer.

1. Which of the following is a member of vascular cryptogams?
- (a) Bryophyta (b) Pteridophyta
(c) Gymnosperms (d) Angiosperms

2. Heterospory is production of
- (a) Sexual and asexual spores
(b) Large and small spores
(c) Haploid and diploid spores
(d) Diploid and tetraploid spores
3. Formation of gametophyte directly from spore mother cell without meiosis is called
- (a) Apospory (b) Apogamy
(c) Apomictic (d) Apomixis
4. The aquatic fern which is an excellent biofertilizer is
- (a) *Azolla* (b) *Marsilia*
(c) *Salvinia* (d) *Pteridium*
5. Which type of stele is present in *Selaginella*?
- (a) Eustelic (b) Solenostelic
(c) Protostelic (d) Dictyostelic
6. The sori in *Pteris* are
- (a) reniform and discontinuous
(b) vermiform and discontinuous
(c) circular and discontinuous
(d) linear and continuous

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7. Which of the following genera is associated with coralloid roots?

- (a) *Cycas* (b) *Taxus*
- (c) *Pinus* (d) *Sequoia*

8. Canada balsam is an oleoresin obtained from

- (a) *Impatiens balsamia*
- (b) *Abies balsamea*
- (c) *Pinus* sp.
- (d) *Helianthus annuus*

9. Megasporangium in Gymnosperms is also called as _____.

- (a) Macrosporangiate
- (b) Male strobili
- (c) Microsporangium
- (d) Nucellus

10. Which gymnospermic plant cures rheumatism?

- (a) *Araucaria* (b) *Ephedra*
- (c) *Gnetum* (d) *Pinus*

11. Ephedrine is obtained from Ephedra by

- (a) Root (b) Stem
- (c) Leaves (d) Both (a) and (b)

12. "Monkey's puzzle" is a common name for

- (a) *Araucaria imbricata*
- (b) *Cycas revoluta*
- (c) *Pinus longifolia*
- (d) *Gnetum gnemon*

13. What type of plant fossils are formed when a plant is buried in sediment and the organic material is replaced by mineral matter?

- (a) Petrification (b) Carbonization
- (c) Mummification (d) None of these

14. The pollen-bearing organs of *Lyginopteris* belong to

- (a) Cycadeoidea (b) Crosstheca
- (c) Calymmaatotheca (d) Williamsonia

15. What is the study of fossil pollen and spores called?

- (a) Palaeobotany
- (b) Paleobotany
- (c) Palynology
- (d) Paleontology



PART B — (5 × 4 = 20 marks)

Answer ALL questions, choosing either (a) or (b)

16. (a) Summarize the merits and demerits of Telome theory.

Or

- (b) Distinguish between apospory and apogamy.

17. (a) Explain the external structure of *Pteris*.

Or

- (b) Explain the development of male gametophyte of *Selaginella* with neat diagram.

18. (a) Explain the Sporne classification of gymnosperms.

Or

- (b) Explain about the leaf morphology of gymnosperms.

19. (a) Describe the reproductive structure of *Thuja*.

Or

- (b) Describe the internal structure of *Ephedra* stem.

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20. (a) Sketch the internal structure of *Calamites*.

Or

- (b) Explain the reproductive structures of *Rhynia*.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b)

21. (a) Discuss the economic importance of Pteridophytes.

Or

- (b) Enumerate various types of protostele.

22. (a) Describe the development of gametophytes in *Isoetes*.

Or

- (b) Discuss about reproduction of *Equisetum*.

23. (a) Describe the distribution of gymnosperms in India.

Or

- (b) Describe the reproduction and fertilization in gymnosperms.

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24. (a) Explain the vegetative and reproductive structure of *Araucaria*.

Or

- (b) Explain the vegetative and reproductive structure of *Gnetum*.

25. (a) Discuss about Geological time scale.

Or

- (b) Describe the various types of fossils.
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