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Reg. No. :

Code No. : 11727 E Sub. Code : SMBO 31

B.Sc. (CBCS) DEGREE EXAMINATION, APRIL 2019.

Third Semester

Botany — Main

PTERIDOPHYTES, GYMNOSPERMS AND
PALEOBOTANY

(For those who joined in July 2017 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Psilotum reproduces asexually by

- (a) sporangium (b) bulbils
(c) gemmae (d) tubers

2. Which of the following is a club mass?

- (a) Rhynia (b) Psilotum
(c) Lycopodium (d) Marsilea

3. The most primitive type of stele in pteridophytes is _____.

- (a) Haplostele (b) Actinosteles
(c) Plectosteles (d) Siphonosteles

4. Amphiphloic siphonosteles is found in

- (a) Psilotum (b) Lycopodium
(c) Rhynia (d) Marsilea

5. The resin duct in Pinus stem secretes

- (a) Turpentine (b) Latex
(c) Aminoacid (d) None of the above

6. The ovuliferous scale of pinus is a part of

- (a) megasporophyll (b) microsporophyll
(c) ovule (d) dwarf shoot

7. In Gnetum, the pollen grains are shed at

- (a) One nucleus stage
(b) Two nucleate stage
(c) Three nucleate stage
(d) Four nucleate stage

8. Collars in gnetum is also called
- (a) Connate bracts (b) Stem
(c) Bracteole (d) Calyx and Corolla

9. Lyginopteris is a
- (a) Fossil gymnosperm
(b) Fossil pteridophyte
(c) Living fossil
(d) Thallophyte

10. The strobili of *Lepidodendron* is
- (a) Stigmaria (b) *Lepidocarpon*
(c) *Lepidostrobos* (d) *Sigillaria*

PART B — (5 × 5 = 25 marks)

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

Each answer should not exceed 250 words.

11. (a) Explain the spore bearing organ of *Psilotum*.

Or

- (b) Describe the cone of *Lycopodium*.

12. (a) Describe the external features of *Adiantum*.

Or

- (b) Explain the internal structure of rhizome of *Marsilea*.

13. (a) Discuss briefly the general character of Gymnosperms.

Or

- (b) Describe the internal structure of *Pinus* needle.

14. (a) Explain the secondary growth in *Gnetum* Stem.

Or

- (b) Describe the structure of male cone in *Gnetum*.

15. (a) Describe the internal anatomy of the stem of *Rhynia*.

Or

- (b) Explain the morphology of *Lepidodendron*.

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

Each answer should not exceed 600 words.

16. (a) Write the general characters of Pteridophytes.

Or

- (b) Give an elaborate note on classification of pteridophytes proposed by Sporne.

17. (a) Explain the life history of Adiantum.

Or

- (b) With neat diagrams describe the internal structure of the sporocarp of Marsilea.

18. (a) Explain the secondary growth of Pinus stem.

Or

- (b) Describe the male and female cones of Pinus.

19. (a) Write in detail about the female cone of Gnetum and add a note on the structure of ovule.

Or

- (b) List out the economic importance of Gymnosperms.

20. (a) Write an essay on geological time scale.

Or

- (b) Explain the different types of fossils.
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