

B.Sc. (CBCS) DEGREE EXAMINATION, APRIL 2023

Fourth Semester

Botany — Core

PTERIDOPHYTES, GYMNOSPERMS AND
PALEOBOTANY

(For those who joined in July 2021 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Which of the following has synangia?
(a) Lycopodium (b) Psilotum
(c) Adiantum (d) Selaginella
2. Which of the following is club moss?
(a) Marsilea (b) Psilotum
(c) Lycopodium (d) Selaginella

3. Rhizophore is seen in
(a) Lycopodium (b) Psilotum
(c) Selaginella (d) Marsilea
4. Which plant is known as spike moss?
(a) Lycopodium (b) Marsilea
(c) Psilotum (d) Selaginella
5. Naked ovule is seen in this plant group
(a) Fungi (b) Algae
(c) Angiosperm (d) Gymnosperm
6. Winged pollen grain is present in
(a) Isoetes (b) Gnetum
(c) Pinus (d) Lycopodium
7. Which of the following is present in Gnetum
(a) Fibres (b) Vessels
(c) Tracheids (d) All the above

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8. The pavement tissue in the ovule of Gnetum develops from
(a) Male gametophyte
(b) Female gametophyte
(c) Integument
(d) Nucellus
9. The geological time scale consists of _____ eras.
(a) 6 (b) 3
(c) 8 (d) 5
10. Rhynia is a fossil
(a) Pteridophyte (b) Gymnosperm
(c) Angiosperm (d) Bryophyte

PART B — (5 × 5 = 25 marks)

Answer ALL questions choosing either (a) or (b).
Each answer should not exceed 250 words.

11. (a) Write down the general characters of Pteridophyte.

Or
(b) Explain the types of steles in Lycopodium.

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12. (a) Describe the anatomical structure of selginella rhizophore.

Or

- (b) Describe the external structure of Adiantum.

13. (a) Describe the internal structure of Pinus needle.

Or

- (b) Explain the structure of female cone of Pinus with diagram.

14. (a) Describe the external morphology of Gnetum plant.

Or

- (b) Explain the secondary growth in Gnetum stem.

15. (a) Write notes on Geological Time Scale.

Or

- (b) Describe the internal structure of Rhynia stem.

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PART C — (5 × 8 = 40 marks)

Answer ALL questions choosing either (a) or (b).
Each answer should not exceed 600 words.

16. (a) Write an essay on the internal structure of root and stem of Lycopodium.

Or

- (b) Expound the life cycle of Psilotum.

17. (a) Describe how does selaginella reproduce by means of spores.

Or

- (b) Explain the reproduction in Adiantum.

18. (a) Describe the external structure of Pinus.

Or

- (b) Explain how does Pinus reproduce?

19. (a) List out the Angiospermic characteristic features of Gnetum.

Or

- (b) Describe the economic importance of Gymnosperms.

20. (a) Explain the various methods of fossilization.

Or

- (b) Describe the internal structure of Lepidodendron stem.
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