

(6 pages)

Reg. No. :

Code No. : 7146

Sub. Code : PBOM 21

M.Sc. (CBCS) DEGREE EXAMINATION,
APRIL 2018.

Second Semester

Botany

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. Most primitive living vascular plants are
- (a) Brown algae
 - (b) Sphagnum
 - (c) Ferns
 - (d) Cycads

2. The groups of plants where which the first to become sporophyte is the
- (a) Bryophytes
 - (b) Pteridophytes
 - (c) Gymnosperms
 - (d) Angiosperms
3. Spore bearing leaf is called
- (a) sorous
 - (b) Indusium
 - (c) Rumentum
 - (d) sporophyll
4. In Pteridophyte, reduction division occurs when
- (a) Spores are formed
 - (b) Gametes are formed
 - (c) Prothallus is formed
 - (d) Sex organisms formed
5. The stele present in *Equisetum*
- (a) Haplostele
 - (b) Actinostele
 - (c) Plectostete
 - (d) Siphonostele

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6. The structure that produce gametes in the Prothallus are
- (a) anthers and archegonia
 - (b) ascogonium and anthers
 - (c) antheridia and archegonia
 - (d) none of the above
7. Each stamen in *Cycas* is a representation of
- (a) Microsporophyll
 - (b) Microsporangium
 - (c) Megasporophyll
 - (d) Megasporangium
8. Algal zone is characteristic of
- (a) roots of *Pinus*
 - (b) normal roots of *Cycas*
 - (c) coralloid roots of *cycas*
 - (d) stems of *Pinus*
9. The earliest fossils of *Foraminifera* are found in
- (a) Peruvian rocks
 - (b) Carboniferous rock
 - (c) Silurian rocks
 - (d) Upper Cambrian rocks

10. Benthonic forminiferous were distributed all round the world during?
- (a) Paleozoic era
 - (b) Mesozoic era
 - (c) Tertiary era
 - (d) Cenozoic era

PART B — (5 × 5 = 25 marks)

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

Each answer should not exceed 250 words.

11. (a) Write notes on Morphology and structure of reproduction organs in *Spehnophyllum*.
- Or
- (b) Describe the gametophyte and sporophyte of the *Calamites*.
12. (a) Write about the origin of Pteridophytes.
- Or
- (b) Give an account of gametophytic generation of Pteridophytes.



13. (a) Describe a sexual reproduction in *Equisetum*.

Or

- (b) Give an account of gametophytic generation of *Marsilea*.

14. (a) Write about the anatomical features of *Cycas* leaflets.

Or

- (b) Write about the morphology and phylogeny of *Ephedra*.

15. (a) Discuss techniques of fossil study.

Or

- (b) Discuss the mechanism of fossil formation.

PART C — (5 × 8 = 40 marks)

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

Each answer should not exceed 600 words.

16. (a) Discuss about the classification of Pteridophytes proposed by Reimer (1954).

Or

- (b) Discuss the affinities of Gymnosperms to other groups of plants.

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17. (a) Describe the morphology structure and sporophytes of *Angiopteris*.

Or

- (b) Compare and contrast the reproductive structure in *Equisetum* and *Lycopodium*.

18. (a) Write about the heterospory and origin of seed habit in pteridophytes.

Or

- (b) Economic importance of Pteridophytes.

19. (a) Give an account on *Williamsonia*.

Or

- (b) Give an account on the economic importance of Gymnosperms.

20. (a) Give an account on the objectives and techniques of palaeobotanical study.

Or

- (b) Give an account on role of fossils in coal excavation and oil exploration.

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