

**FOURTH SEMESTER (CBCSS-UG) DEGREE EXAMINATION, APRIL 2022**

Plant Science

PLA4B04—BRYOPHYTES, PTERIDOPHYTES, GYMNOSPERMS AND PALEOBOTANY

(2019 Admission onwards)

Time : Two Hours and a Half

Maximum : 80 Marks

**Section A***Answer atleast ten questions.**Each question carries 3 marks.**All questions can be attended.**Overall ceiling 30.*

1. Define Sorus with example.
2. Plant body of Equisetum.
3. Write the economic importance of Gymnosperms.
4. Write notes on the Prothallus of Psilotum.
5. Give an account of male cone of Pinus.
6. Define mycorrhiza. Give an example.
7. Write notes on the internal structure of the thallus of Anthoceros.
8. Describe briefly the Sporocarp of Marsilea.
9. Write notes on corolloid roots of Cycas.
10. Give a brief account of geological time scale.
11. Describe with diagram the parts of Funaria sporophyte.
12. Write notes on the internal structural of Gnetum leaves.
13. What are the vegetative features of Selaginella ?

14. Define the structure of protostele and siphonostele in pteridophytes.
15. Describe the structure of seeds in Gnetum.

(10 × 3 = 30 marks)

### Section B

*Answer atleast five questions.*

*Each question carries 6 marks.*

*All questions can be attended.*

*Overall ceiling 30.*

16. Describe with diagram the heterospory in Selaginella.
17. Write notes on the sexual reproduction in Equisetum.
18. Give a summary of Paleobotanocal studies based on your syllabus.
19. What are the important aspects in the life cycle of Pteris ?
20. Describe the mode of reproduction in Psilotum ?
21. Explain microsporophylls of Cycas.
22. What are the advanced and primitive characters of Gnetum ?
23. Explain the life cycle of Riccia.

(5 × 6 = 30 marks)

### Section C

*Answer any two questions.*

*Each question carries 10 marks.*

24. Give an account of various stages of Anthoceres. Draw diagrams.
25. What are the salient features in the life cycle of Pinus ? Draw diagrams.
26. Give a brief account of sexual reproduction in Selaginella.
27. What are fossils ? Give an account of fossils in your syllabus.

(2 × 10 = 20 marks)

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APRIL 2022**

Plant Science

PLA 4B 04—BRYOPHYTES, PTERIDOPHYTES, GYMNOSPERMS AND PALEO BOTANY  
(2014—2018 Admissions)

Time : Three Hours

Maximum : 80 Marks

**Part A**

I. Answer *all* questions in one word/sentence. Each question carries 1 mark :

- 1 Describe the era of Gymnosperm and Angiosperm.
- 2 Give the general characteristics of Bryophyta.
- 3 Explain the structure of archegonium.
- 4 What is the common name of *Lycopodium* ?
- 5 Define Plectostele and Actinostele.
- 6 Name the order to which *Rhynia* belongs.
- 7 Define apogamy in pteridophyte.
- 8 Write the features of *Equisetum* aerial shoot.
- 9 Define palaeobotany.
- 10 Describe schizolysigenous canals.

(10 × 1 = 10 marks)

**Part B**

II. Answer *all* questions. Each answer not exceeding 50 words. Each question carries 2 marks :

- 11 Explain apogamy and apospory in Pteridophyte.
- 12 Briefly explain the economic importance of Gymnosperm.
- 13 Write the morphology of rhizophore in *Selaginella*.
- 14 Give an account of the types of fossils.
- 15 Describe the characteristic features of pollen of *Pinus*.
- 16 Write a short note on *Gnetum* male flower.

Turn over

- 17 Describe the structure of sporangiophore of *Equisetum*.
- 18 Give the systematic position of *Psilotum*.
- 19 Write a short note on *Gnetum* male cone.
- 20 Explain the economic importance of Bryophytes.

(10 × 2 = 20 marks)

### Part C

III. Answer any six of the following. Each short essay not exceeding 150 words. Each question carries 5 marks :

- 21 Give an account on the objectives of Paleobotanical study.
- 22 Write a short note on anatomy of *Cycas* leaflet.
- 23 Detailed explanation of reproduction in *Funaria*.
- 24 Write a brief note on coralloid root.
- 25 What are the different types of gametophyte seen in *Lycopodium* ?
- 26 Explain the structure of antheridium in *Riccia*.
- 27 Explain the structure of synangium in *Psilolum* with the help of diagram.
- 28 Briefly explain the affinities between Gymnosperms and Pteridophytes.

(6 × 5 = 30 marks)

### Part D

IV. Answer any two of the following. Each essay not exceeding 350 words. Each question carries 10 marks :

- 29 Explain the sequence of plants in geological time scale.
- 30 Give an account on the external and internal structure of *Riccia* thallus and describe its vegetative mode of reproduction.
- 31 Discuss life cycles pattern and stellar evolution of Pteridophytes with examples.

(2 × 10 = 20 marks)

**FOURTH SEMESTER (CBCSS—UG) DEGREE EXAMINATION  
APRIL 2021**

Plant Science

PLA 4B 04—BRYOPHYTES, PTERIDOPHYTES, GYMNOSPERMS AND  
PALEOBOTANY

Time : Two Hours and a Half

Maximum : 80 Marks

**Section A**

*Answer at least ten questions.*

*Each question carries 3 marks.*

*All questions can be attended.*

*Overall Ceiling 30.*

1. Define circinate vernation. Give an example.
2. Draw a labelled diagram of internal structure of Riccia thallus.
3. Give a brief description of Rhynia.
4. What are gemmae ? Name a plant with gemmae.
5. Define the prothallus of Pteris with diagram.
6. Give a brief account of geological time scale.
7. What are the economic importance of pteridophytes ?
8. What are fossils ? Give an example.
9. What is indusium ? Name a plant with indusium.
10. Describe the root system of Pinus.
11. Write notes on the Sporophyte of Anthoceros.
12. Give a brief account of primary structure of male gametophyte of Gnetum.
13. Write notes on dwarf shoot of Pinus.
14. What is haplostele ?
15. Write notes on Paraphysis and Glossopodium.

(10 × 3 = 30 marks)

**Turn over**

**Section B**

*Answer at least **five** questions.*

*Each question carries 6 marks.*

*All questions can be attended.*

*Overall Ceiling 30.*

16. Describe with diagram the structure of Cycas ovule.
17. Give an account of the economic importance of gymnosperms.
18. Describe with diagram the sorus structure of Pteris.
19. Write notes on Sporophyte of Riccia.
20. Briefly describe the various stages in the life cycle of Equisetum.
21. Describe with diagram the Life cycle of Psilotum.
22. Describe with diagram the gametophyte of Funaria.
23. Describe with diagram the male cone of Pinus.

(5 × 6 = 30 marks)

**Section C**

*Answer any **two** question.*

*Each question carries 10 marks.*

24. Describe with diagram the life cycle of Pteris.
25. Give an account of alternation of generation in Gnetum. Draw diagrams.
26. Describe with diagrams the reproduction in Cycas.
27. What are the salient features in the life cycle of Marselia ?

(2 × 10 = 20 marks)

**FOURTH SEMESTER (CUCBCSS—UG) DEGREE EXAMINATION  
APRIL 2021**

Plant Science

PLA 4B 04—BRYOPHYTES, PTERIDOPHYTES, GYMNOSPERMS AND PALEO BOTANY

Time : Three Hours

Maximum : 80 Marks

**Part A**

I. Answer *all* questions in one word/sentence :

- 1 Give an example for fossil Pteridophyte.
- 2 Define Sporocarp.
- 3 Define Calyptras.
- 4 Name a vascular cryptogam with synangium.
- 5 What is the common name of *Lycopodium* ?
- 6 Describe schizolysigenous canals.
- 7 Define Plectostele and Actinostele.
- 8 Describe the era of Gymnosperm and Angiosperm.
- 9 Name the order to which *Rhynia* belongs.
- 10 Describe Ligule.

(10 × 1 = 10 marks)

**Part B**

II. Answer *all* questions. Each answers not exceeding 50 words :

- 11 Comment on the megasporophyll of *Cycas*.
- 12 Mention the hydrophytic features of *Equisetum* aerial shoot.
- 13 Explain the features of gametophyte of *Riccia*.
- 14 Give an account of the types of fossils.
- 15 Describe the structure of sporangiophore of *Equisetum*.
- 16 Describe the characteristic features of pollen of *Pinus*.

- 17 Write a short note on *Gnetum* male flower.
- 18 Give the systematic position of *Funaria*.
- 19 Write a short note on xerophytic adaptation of *Cycas*.
- 20 What are the objectives of palaeobotanical studies ?

(10 × 2 = 20 marks)

### Part C

III. Answer any six of the following. Each short essay not exceeding 150 words :

- 21 Give an account of the stelar types of *Lycopodium*.
- 22 Describe the salient features of Bryophytes.
- 23 Economic importance of Pteridophytes.
- 24 Give a detailed account on anatomy of *Cycas* leaflet.
- 25 Explain the structure of *Pinus* needle.
- 26 Briefly describe the internal structure of sporocarp.
- 27 Economic importance of Bryophytes.
- 28 Explain coralloid root.

(6 × 5 = 30 marks)

### Part D

IV. Answer any two of the following. Each essay not exceeding 350 words :

- 29 Give an account on the external and internal structure of *Riccia* thallus and describe its vegetative mode of reproduction.
- 30 Write an essay on evolutionary relationship of Pteridophytes among bryophytes and gymnosperms.
- 31 Explain the external morphology of *Pinus*. With help of a diagram describe the anatomy of *Pinus* needle.

(2 × 10 = 20 marks)