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Name.....

Reg. No.....

**FIFTH SEMESTER (CBCSS—UG) DEGREE EXAMINATION
NOVEMBER 2025**

Botany

BOT 5B 06—GYMNOSPERMS, PALAEOBOTANY, PHYTOGEOGRAPHY AND
EVOLUTION

(2019 Syllabus)

Time : Two Hours

Maximum : 60 Marks

Section A*Answer all questions.**Each question carries 2 marks.**Ceiling : 20 Marks.*

1. Write any *two* evolutionary trends in Gymnosperms.
2. What is the uses of geological time scale ?
3. What are the characteristics feature of Williamsonia.
4. Write a short notes on fossil Pteridophytes with example.
5. Write the concept of phytogeography.
6. Distinguish migration and extinction.
7. What is Protenoids ?
8. Write a short notes on fossil Lepidodendron.
9. Distinguish sympatric and allopatric Speciation.
10. Differentiate condensation and polymerization.
11. What are the causes of glaciations ?
12. What is called archaeobacteria ?

Turn over

Section B

*Answer all questions.
Each question carries 5 marks.
Ceiling : 30 Marks.*

13. Explain the morphological characters of Gnetum.
14. Write the affinities of Gymnosperms with Pteridophytes.
15. Brief out the sequence of plants in geological time
16. Determine the theories on endemism.
17. Find the evidences of organic evolution from anatomy.
18. Discuss the arguments and support for Darwinism.
19. Define endemic distribution and mention the age and area hypothesis

Section C

*Answer any one question.
The question carries 10 marks.*

20. Define continental drift. Explain the evidences and impact of continental drift.
21. Elaborate the patterns of plant distribution.

(1 × 10 = 10 marks)

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NOVEMBER 2024**

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BOT 5B 06—GYMNOSPERMS, PALAEOBOTANY, PHYTOGEOGRAPHY AND
EVOLUTION

(2019 Admission onwards)

Time : Two Hours

Maximum : 60 Marks

Section A*Answer all questions in two or three sentences.**Each correct answer carries 2 marks.**(Ceiling 20 marks)*

1. Give an account of secondary transfusion tissue in *Cycas* ?
2. Comment the morphological features of *Rhynia*.
3. What is Endemism ?
4. Comment on age and area hypothesis.
5. Discuss the angiosperm characters of *Gnetum*.
6. Give an account of important plant events in mesozoic era.
7. Give an account of discontinuous plant distribution.
8. Write a brief account on the structure of microsporophyll in *Cycas*.
9. What is Neo-Darwinism ?
10. Write a brief account on the isolating mechanisms of speciation.
11. What are Coacervates ?
12. Give an account of the xerophytic characters of *Pinus* needle.

Turn over

Section B

Answer all questions in a paragraph of about half a page to one page.

Each correct answer carries a maximum of 5 marks.

(Ceiling 30 marks)

13. Explain the structure of ovule of *Gnetum*.
14. Explain the contributions of Indian paleobotanists ?
15. Discuss the importance of gymnosperms in food and industry.
16. Explain the anatomical and morphological evidences of organic evolution.
17. Explain the major postulates of Darwinism.
18. Give an account of the phytogeographical zones of India ?
19. Discuss the causes and consequences of glaciation.

Section C

Answer any one in about two pages.

The correct answer carries a maximum of 10 marks.

20. Explain the morphology and reproduction of *Pinus* with diagrams.
21. What is organic evolution ? How genetic variability is created during evolution ?

(1 × 10 = 10 marks)

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EVOLUTION**

(2019 Admission onwards)

Time : Two Hours

Maximum : 60 Marks

Section A

Answer all questions in two or three sentences.

Each correct answer carries 2 marks.

(Ceiling 20 marks)

1. What are spur shoots ?
2. *Gnetum* is considered as an advanced genus in gymnosperms. Comment.
3. What is meant by genetic drift ?
4. Distinguish between manoxylic and pycnoxylic wood.
5. What are petrified fossils ?
6. Give an account of the vascular system in *Rhynia*.
7. Comment on diploxylic condition in *Cycas*.
8. Give an account of age and area hypothesis.
9. Write the major principles of Darwinism.
10. What is meant by vicarism ?
11. Comment on the causes of glaciation.
12. Distinguish between allopatric and sympatric species.

Turn over

Section B

Answer all questions in a paragraph of about half a page to one page.

Each correct answer carries a maximum of 5 marks.

(Ceiling 30 marks)

13. Explain the structure of *Pinus* needle with diagrams.
14. Give an account of the morphology of *Lepidodendron*.
15. Explain the structure of ovule of *Cycas*.
16. Write a short note on various phytogeographic zones of India.
17. How genetic variability is created in organisms during organic evolution ?
18. Discuss the mechanism of speciation.
19. Give an account of continental drift theory

Section C

Answer any one in about two pages.

The correct answer carries a maximum of 10 marks.

20. Explain the economic importance of gymnosperms.
21. Explain the vegetative and reproductive features of *Gnetum* with diagrams.

(1 × 10 = 10 marks)