

Botany

D 90121

(Pages : 2)

Name.....

Reg. No.....

**FIFTH SEMESTER B.A./B.Sc. DEGREE EXAMINATION  
NOVEMBER 2020**

(CUCBCSS—UG)

Botany

**BOT 5B 05—GYMNOSPERMS, PALAEOBOTANY, PHYTOGEOGRAPHY AND  
EVOLUTION**

Time : Three Hours

Maximum : 80 Marks

**Section A**

*Answer all questions.*

*Each question carries 1 mark.*

1. Name a gymnosperm with unbranched stem.
2. Mention the name and place of a Palaeobotanical Institute in India.
3. Specify the phenomenon of occurrence of more than one embryo in a seed.
4. Name the scientist who proposed the theory of land bridges.
5. Name a gymnosperm which has manoxylic wood.
6. Define sympatric speciation.
7. Specify the period in geological time scale which is often referred to as the 'age of ferns'.
8. The phenomenon of occurrence of closely related species of plants and animals in various areas or are found in the same area of distribution.
9. What is Amber ?
10. Name any *one* endemic plant species of Kerala.

(10 × 1 = 10 marks)

**Section B (Short Answer Questions)**

*Answer at least five questions.*

*Each question carries 4 marks.*

*All questions can be attended.*

*Overall Ceiling 20.*

11. What is extinction ? What are the causes of extinction ?
12. Mention any *two* xerophytic characters of *Cycas* leaflet.

Turn over

13. Mention the significance of studying Phytogeography.
14. What is the significance of Rajmahal hills of India ?
15. Write notes on *Lepidocarpon*.
16. Leaves of *Pinus* are said to be dimorphic. Why is it so ?
17. What are the ways of production of genetic variability in an organism ?
18. Explain the external morphology of *Gnetum* sporophyte.
19. Bring out the impacts of Continental drift theory.
20. Mention the distinguishing features of Weismann's Germplasm theory.

(5 × 4 = 20 marks)

### Section C (Short Essay)

*Answer at least five questions.  
Each question carries 7 marks.  
All questions can be attended.  
Overall Ceiling 35.*

21. Give a detailed description of affinities of Gymnosperms to Pteridophytes.
22. Mention the contributions of Savithri Sahni.
23. Bring out a short account of fossil deposits in India.
24. What are the postulates of Lamarckism? Bring out the drawbacks of Lamarckism.
25. With suitable diagrams, explain the structure of *Cycas ovule*.
26. Differentiate migration from dispersal with suitable examples.
27. With suitable examples, bring out the evolution of prokaryotic and eukaryotic cells.
28. Give an account of Neodarwinism.

(5 × 7 = 35 marks)

### Section D

*Answer at least one question.  
The question carries 15 marks.*

29. With suitable examples, bring out the economic importance of Gymnosperms.
30. Explain Oparin's concept of origin of life.
31. Give a brief account of phytogeographical regions of the world.

(1 × 15 = 15 marks)