| Reg. No. | | | | |
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G. VENKATASWAMY NAIDU COLLEGE (AUTONOMOUS), KOVILPATTI - 628 502.



UG DEGREE END SEMESTER EXAMINATIONS - NOVEMBER 2025.

(For those admitted in June 2021 and later)

PROGRAMME AND BRANCH: B.Sc., BOTANY

| S | EM | CATEGORY | COMPONENT | COURSE CODE | COURSE TITLE |
|---|----|------------|-----------|-------------|--|
| | II | PART - III | CORE | U21BO203 | PTERIDOPHYTES, GYMNOSPERM AND PALEOBOTANY |

Date & Session:03.11.2025/FN Time: 3 hours Maximum: 75 Marks

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|--------|--------------------|-----------|--|--|--|--|
| Course | Bloom's K-level | Q. No. | <u>SECTION - A (10 X 1 = 10 Marks)</u> Answer <u>ALL</u> Questions. | | | |
| CO1 | K1 | 1. | Which of the following is a characteristic feature of Pteridophytes? a) Presence of seeds b) Presence of true roots, stems, and leaves c) Lack of vascular tissue d) Presence of flowers | | | |
| CO1 | K2 | 2. | Which class does the genus Psilotum belong to in the classification of Pteridophytes? a) Lycopsida b) Equisetopsida c) Psilotopsida d) Polypodiopsida | | | |
| CO2 | K1 | 3. | Which of the following is a characteristic feature of Marsilea? a) Dichotomous branching of stems b) Presence of microphylls c) Presence of clover-like leaves d) Absence of vascular tissue | | | |
| CO2 | K2 | 4. | Which type of stelar arrangement is commonly found in ferns like Lycopodium? a) Protostele b) Siphonostele c) Eustele d) Angiospermic steles | | | |
| CO3 | K1 | 5. | Which of the following is a characteristic feature of Gymnosperms? a) Flowers with petals b) Seeds are enclosed within a fruit c) Presence of cones for reproduction d) Presence of xylem vessels | | | |
| CO3 | K2 | 6. | What is the reproductive structure of Pinus? a) Flowers b) Cones c) Spores d) Seeds | | | |
| CO4 | K1 | 7. | Which of the following best describes Paleobotany? a) Study of living plants b) Study of ancient plant fossils c) Study of plant diseases d) Study of plant physiology | | | |
| CO4 | K2 | 8. | Which feature makes Gymnosperms more closely related to Angiosperms than to Pteridophytes? a) Presence of seeds b) Non-competitive inhibition c) Presence of cones d) Homosporous reproduction | | | |
| CO5 | K1 | 9. | Rhynia is considered a fossil of which plant group? a) Angiosperms b) Gymnosperms c) Pteridophytes d) Bryophytes | | | |
| CO5 | K2 | 10. | Who is considered the pioneer of Paleobotany in India? a) Ramesh Chandra b) Birbal Sahni c) J.C. Bose d) Satyendra Nath Bose | | | |

| Course Outcome | Bloom's K-level | Q. No. | $\frac{\text{SECTION} - B \text{ (5 X 5 = 25 Marks)}}{\text{Answer } \frac{\text{ALL}}{\text{Questions choosing either (a) or (b)}}$ |
|-------------------|--------------------|-----------|--|
| CO1 | КЗ | 11a. | Explain the general characteristics of Pteridophytes. (OR) |
| CO1 | КЗ | 11b. | Describe the structure of Psilotum. |
| CO2 | КЗ | 12a. | Explain the structure and function of the gemma cup in Marsilea. (OR) |
| CO2 | КЗ | 12b. | Discuss the vegetative reproduction in Lycopodium. |
| CO3 | K4 | 13a. | Describe the general characteristics of Gymnosperms. (OR) |
| СОЗ | K4 | 13b. | Discuss the structure of the Pinus needle. |
| CO4 | K4 | 14a. | Explain the affinities of Gymnosperms with Pteridophytes and Angiosperms. (OR) |
| CO4 | K4 | 14b. | Describe the types of fossils and their significance in Paleobotany. |
| CO5 | K5 | 15a. | Explain the significance of the fossil Rhynia in the study of Pteridophytes. (OR) |
| CO5 | K5 | 15b. | Discuss the fossil deposits in India and their significance. |

| Course Outcome | Bloom's K-level | Q. No. | $\frac{\text{SECTION} - C}{\text{Answer } \underline{\text{ALL}}}$ Questions choosing either (a) or (b) |
|-------------------|--------------------|-----------|---|
| CO1 | КЗ | 16a. | Describe the classification of Pteridophytes by Smith. |
| | | | (OR) |
| CO1 | КЗ | 16b. | Discuss the reproduction of Psilotum. |
| CO2 | K4 | 17a. | Explain the stelar evolution and its significance in Pteridophytes. (OR) |
| CO2 | K4 | 17b. | Discuss the economic importance of Pteridophytes. |
| CO3 | K4 | 18a. | Explain the classification of Gymnosperms according to Chamberlain. (OR) |
| CO3 | K4 | 18b. | Describe the structure of the Pinus female cone. |
| CO4 | K5 | 19a. | Explain the Geological Time Scale and its relevance in Paleobotany. |
| | | | (OR) |
| CO4 | K5 | 19b. | Discuss the economic importance of Gymnosperms and their role in industries. |
| CO5 | K5 | 20a. | Describe the contributions of Birbal Sahni to the development of Paleobotany |
| | | | in India. |
| | | | (OR) |
| CO5 | K5 | 20b. | Explain the significance of Lyginopteris in the study of Gymnosperms and |
| | | | plant evolution. |