Reg. No.: | | | | | | | | |

G. VENKATASWAMY NAIDU COLLEGE (AUTONOMOUS), KOVILPATTI – 628 502.

PG DEGREE END SEMESTER EXAMINATIONS - NOVEMBER 2025.

(For those admitted in June 2025 and later)

PROGRAMME AND BRANCH: M.Sc., BOTANY

SEM	CATEGORY	COMPONENT	COURSE CODE	COURSE TITLE
I	PART - III	CORE - 2	P25BO102	PLANT DIVERSITY - II: PTERIDOPHYTES, GYMNOSPERMS AND PALEOBOTANY

Date & Session :05.11.2025/FN **Time : 3 hours** **Maximum: 75 Marks**

Course Outcome	Bloom's K-level	Q. No.	SECTION – A (10 X 1 = 10 Marks) Answer ALL Questions.
CO1	K1	1.	What type of life cycle do Pteridophytes exhibit? a) Haplontic b) Diplontic c) Haplodiplontic d) All the above
CO1	K2	2.	Gametophytes of Pteridophytes are usually. a) haploid and photosynthetic b) diploid and photosynthetic c) triploid and non-functional d) haploid and non-photosynthetic
CO2	K1	3.	*Osmunda* differs from typical ferns in. a) having no roots b) reproductive structure c) spore type d) absence of vascular bundles
CO2	K2	4.	Siphonostele is present in. a) *Isoetes* b) *Equisetum* c) *Angiopteris* d) *Pteris*
CO3	K1	5.	Fertilization in Gymnosperms is generally. a) single b) double c) zoogamous d) absent
CO3	K2	6.	The female gametophyte of Gymnosperm develops. a) inside the ovary b) from the zygote c) outside the sporophyte d) from the megaspore within the ovule
CO4	K1	7.	Which genus shows vessel elements in Xylem? a) *Pinus* b) *Gnetum* c) *Thuja* d) *Cupressus*
CO4	K2	8.	*Podocarpus* seeds are enclosed by a. a) cone b) bract c) fleshy aril d) flower
CO5	K1	9.	Radiocarbon dating is used to determine. a) mass of fossils b) DNA structure c) geological position d) age of fossils
CO5	K2	10.	The type of fossil formed by mineral deposition is called. a) cast b) mold c) petrified d) compression

Course Outcome	Bloom's K-level	Q. No.	**SECTION – B (5 X 5 = 25 Marks)** **Answer ALL Questions choosing either (a) or (b)**
CO1	K2	11a.	Discuss the role of telome theory in the morphological evolution of Pteridophytes. **(OR)**
CO1	K2	11b.	Differentiate between apogamy and apospory with examples.
CO2	K2	12a.	Explain the reproductive structures in *Azolla*. **(OR)**
CO2	K2	12b.	Illustrate the external morphology of *Angiopteris*.
CO3	K3	13a.	List out the general characters of Gymnosperms. **(OR)**
CO3	K3	13b.	Outline the classification of Gymnosperms according to K.R. Sporne.
CO4	K3	14a.	Infer the reproductive features of *Thuja.* **(OR)**
CO4	K3	14b.	Brief the endomorphic characteristics of *Ephedra*.
CO5	K4	15a.	Recall Gondwana flora and add a note on its significance. **(OR)**
CO5	K4	15b.	Summarize the various methods of fossilization.

Course Outcome	Bloom's K-level	Q. No	**SECTION – C (5 X 8 = 40 Marks)** **Answer ALL Questions choosing either (a) or (b)**
CO1	K4	16a.	Describe Reimer's classification of Pteridophytes. **(OR)**
CO1	K4	16b.	Trace the evolutionary trend of stele in Pteridophytes and explain its significance.
CO2	K5	17a.	Discuss the life cycle of *Pteris* with suitable illustrations. **(OR)**
CO2	K5	17b.	Explain the external structure and reproduction of *Equisetum*.
CO3	K5	18a.	Analyze the phylogenetic relationships among major Gymnosperm groups. **(OR)**
CO3	K5	18b.	Mention the economically important Gymnosperms and their uses.
CO4	K5	19a.	Elaborate the morphological and reproductive characters of *Araucaria*. **(OR)**
CO4	K5	19b.	Compare the life histories of *Cupressus* and *Gnetum*.
CO5	K6	20a.	Construct a timeline using geological scale and major fossil plant events. **(OR)**
CO5	K6	20b.	Illustrate the structure of *Rhynia* and *Lepidocarpon*.