STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI 600 086
(For candidates admitted from the academic year 2025 – 2026)

B.Sc. DEGREE EXAMINATION, APRIL 2026
BRANCH V(a) – PLANT BIOLOGY AND PLANT BIOTECHNOLOGY
SECOND SEMESTER

COURSE : CORE
PAPER : GYMNOSPERMS, PALEOBOTANY AND EVOLUTION
SUBJECT CODE : 25BT/MC/GE23
TIME : 3 HOURS MAX. MARKS: 100

Q. No.	SECTION A ANSWER IN A SENTENCE (8 X 2 = 16)	CO	KL
1	List any two economic importance of Gymnosperms.	1	1
2	Define *Stigmaria*.	1	1
3	What is spontaneous origin?	1	1
4	How Bulbils of *Cycas* help in vegetative reproduction?	1	1
5	What is Transfusion tissue?	1	1
6	Differentiate Darwinism and Lamarkism.	1	1
7	What is fossilization?	1	1
8	Define half-life. What is the half-life of carbon-14?	1	1
Q. No.	**SECTION B ANSWER THE FOLLOWING IN 50 WORDS (8 X 3 =24)**	**CO**	**KL**
9	Trace the characteristic features of Coniferopsida.	2	2
10	Write a short note on Mutation theory.	2	2
11	Deduce the morphological features of *Naiadita*.	2	2
12	Differentiate Palisade and spongy parenchyma.	2	2
13	Outline the external morphology of *Cycas* megasporophyll.	2	2
14	Draw and label the structure of L.S. of *Gnetum* seed.	2	2
15	Enumerate the xerophytic characters of *Cycas* leaflet.	2	2
16	Bring out the significance of corolloid root.	2	2
Q. No.	**SECTION C (4 X 5 =20) ANSWER ANY <u>FOUR</u> OF THE FOLLOWING IN 500 WORDS.**	**CO**	**KL**
17	Summerise the characteristic features of Gnetopsida.	3	3
18	Illustrate the life cycle of *Cycas.*	3	3
19	Describe the major periods that shaped the Paleozoic era.	3	3
20	Explain the use and disuse theory of Lamarck.	3	3
21	Enumerate the reproductive structures of *Lepidodendron*.	3	3
Q. No	**SECTION D (2 X 10 =20) ANSWER ANY <u>TWO</u> OF THE FOLLOWING IN 1000 WORDS. DRAW DIAGRAMS WHEREVER NECESSARY.**	**CO**	**KL**
22	Classify Gymnosperms according to Sporne,1965.	4	4
23	Expound the methods of fossilization.	4	4

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24	Compare the ovule of *Cycas* and *Gnetum*.	4	4
Q. No.	**SECTION E (2 x 10 = 20)** **ANSWER ANY <u>TWO</u> OF THE FOLLOWING IN 1000. WORDS. DRAW DIAGRAMS WHEREVER NECESSARY.**	**CO**	**KL**
25	Elucidate the male reproductive structure of *Gnetum*	5	5
26	Interpret the structure of the fossil *Williamsonia*.	5	5
27	Evaluate the theory of natural selection.	5	5

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