STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI –600 086
(For candidates admitted during the academic year 2023 – 2024 & thereafter)

M. Sc. DEGREE EXAMINATION, APRIL 2026
BIOTECHNOLOGY
SECOND SEMESTER

COURSE : ELECTIVE
PAPER : MARINE BIOTECHNOLOGY
SUBJECT CODE : 23BY/PE/MT15
TIME : 3 HOURS MAX. MARKS: 100

Q. No.	SECTION A Answer ALL Questions (10 x 1 = 10 marks)	CO	KL
1	Define marine biotechnology.	1	1
2	What is an estuary?	1	1
3	Name one method of plankton collection.	1	1
4	What are hydrothermal vents?	1	1
5	Define extremozymes.	1	1
6	What is biomagnification?	1	1
7	Expand GESAMP.	1	1
8	Mention one light sampling device used in marine studies.	1	1
9	Name one marine pharmaceutical product.	1	1
10	What is carragenan?	1	1
Q. No.	**SECTION B Answer ALL Questions (5 x 2 = 10 marks)**	**CO**	**KL**
11	Write short notes on coral reefs.	1	2
12	Briefly describe hyperthermophilic microorganisms.	1	2
13	State the effects of oil pollution on marine organisms.	1	2
14	Write a note on dissolved oxygen in marine water.	1	2
15	List the uses of marine food supplements.	1	2
Q. No.	**SECTION C Answer ALL Questions (4 x 10 = 40 marks)**	**CO**	**KL**
16	Describe marine ecosystems with reference to marine, estuarine, and coral reef environments. **(OR)** Explain the classification, collection, and preservation of marine plankton.	2	3
17	Discuss hydrothermal vent ecosystems and their biological importance. **(OR)** Explain the biotechnological applications of extremozymes from marine environments.	2	3
18	Explain bio concentration, bioaccumulation, and biomagnification with suitable examples. **(OR)** Describe the impact of sewage and radioactive pollutants on marine life.	3	4
19	Discuss light and water sampling devices used for marine environmental monitoring. **(OR)** Explain the estimation of salinity and dissolved oxygen in marine water samples.	3	4

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Q. No.	SECTION – D Answer ALL Questions (2 x 20 = 40 marks)	CO	KL
20	Evaluate the importance of monitoring heavy metals and petroleum carbon in marine environments. **(OR)** Assess the role of marine environmental monitoring in ecosystem conservation.	4	5
21	Discuss marine bioactive products with special reference to pharmaceutical applications. **(OR)** Describe the production, properties, and applications of agarose, alginates, and carrageenan.	5	6

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