

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

**M. Sc. DEGREE EXAMINATION, APRIL 2024**  
**BIOTECHNOLOGY**  
**SECOND SEMESTER**

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

Q. No.	SECTION A (10 x 1 = 10 marks) Answer ALL Questions	CO	KL
1	Give any two examples for marine environment.	1	1
2	Highlight the characteristics of deep aquatic environment.	1	1
3	What is the significance of hyperthermophiles?	1	1
4	What are marine extremozymes? Give example.	1	1
5	Which is the main source for marine pollution?	1	1
6	Define mollusc fouling.	1	1
7	How does heavy metal affect the aquatic environment?	1	1
8	What is the role of optofluidics for monitoring marine environment?	1	1
9	What is marine nutraceuticals?	1	1
10	Name any two-pigment present in red algae.	1	1
Q. No.	SECTION B (5 x 2 = 10 marks) Answer ALL Questions	CO	KL
11	Give an account of the special features of coral reefs.	1	2
12	Summarize halotolerance marine extremozymes and its applications.	1	2
13	Enumerate the role of GESAMP.	1	2
14	Describe the analysis of carbon using combustion analyzers.	1	2
15	Brief note on flavour enhancing compounds from algae and their characteristics.	1	2
Q. No.	SECTION C (4 x 10 = 40 marks) Answer ALL Questions	CO	KL
16a	Classify plankton and its types. (or)	2	3
16b	Compile the types of hydrothermal vents and its functions.		
17a	Predict effect of pollutants to marine organisms. (or)	2	3
17b	Present the problems and significance of marine environment monitoring.		
18a	Analyze marine pharmaceutical products for treatment of chronic diseases. (or)	3	4
18b	Outline the methods of measuring dissolved oxygen content and highlight diaphragm electrode method.		

19a	Outline marine fouling and its effects of the environment on fouling colonization. (or)	3	4
19b	Categorize sea weeds and its ecological role.		
<b>Q. No.</b>	<b>SECTION D (2 x 20 = 40 marks)</b> <b>Answer ALL Questions</b>	<b>CO</b>	<b>KL</b>
20a	Elaborate on marine environment and explain the general characteristic features of each zone. (or)	4	5
20b	Describe in detail about microbial diversity in extreme marine habitats.		
21a	Elucidate the solutions to assess, monitor and remediate metal pollution in the marine environment (or)	5	6
21b	Plan out the extraction and purification of alginates from sea weeds and its applications.		

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