

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

B. Sc. DEGREE EXAMINATION, APRIL 2026
BRANCH VIA. ADVANCED ZOOLOGY & BIOTECHNOLOGY
SIXTH SEMESTER

COURSE : MAJOR ELECTIVE
PAPER : ENVIRONMENTAL BIOTECHNOLOGY
SUBJECT CODE : 23ZL/ME/EB45
TIME : 3 HOURS **MAX. MARKS: 100**

Q. No.	SECTION A Answer all questions (10 x 2 = 20 marks)	CO	KL
1.	Give two examples of biosensors.	CO1	K1
2.	Depict the process of sampling of water using a flowchart.	CO1	K1
3.	What is environmental monitoring?	CO1	K1
4.	Expand a) TOC b) PCB	CO1	K1
5.	Mention two genetically modified organisms that can be used in bioaugmentation.	CO1	K1
6.	Recall two examples of effluents from the textile industry.	CO1	K1
7.	List two threats to the Taj Mahal.	CO1	K1
8.	What is anaerobic digestion?	CO1	K1
9.	Give two examples of biofertilisers.	CO1	K1
10.	What is the significance of bioenergy?	CO1	K1
Q. No.	SECTION B Answer all questions (10 x 2 = 20 marks)	CO	KL
11.	List any two biological indicators of air pollution.	CO2	K2
12.	What is a biomarker?	CO2	K2
13.	What is biopiling?	CO2	K2
14.	How do dissolved oxygen levels indicate the health of an aquatic ecosystem?	CO2	K2
15.	List two criteria for the usage of plants in phytoremediation.	CO2	K2
16.	Why are biofuels the need of the hour?	CO2	K2
17.	List any two bioremediation techniques.	CO2	K2
18.	What is the role of bacteria in the removal of nitrogen from agricultural waste?	CO2	K2

19.	List two sources of biogas.	CO2	K2
20.	What is biohydrometallurgy?	CO2	K2
Q. No.	SECTION C Answer any TWO questions. (2 x 10 = 20 marks)	CO	KL
21.	Summarise the types of biomarkers citing examples for each.	CO3	K3
22.	Discuss two types of oil recovery and assess their effectiveness.	CO3	K3
23.	Explain how tannery effluents are treated.	CO3	K3
Q. No.	SECTION D Answer any TWO questions. (2 x 15 = 30 marks)	CO	KL
24.	Evaluate the deleterious effects of microplastics on the environment.	CO4	K4
25.	Explain the steps involved in the treatment of sewage.	CO4	K4
26.	Classify the major types of biopesticides. Highlight the mode of action of <i>Bacillus thuringiensis</i> .	CO4	K4
Q. No.	SECTION E Answer any TWO questions. (2 x 5 = 10 marks)	CO	KL
27.	Highlight the need for environmental monitoring.	CO5	K5
28.	Summarise the impact of the Exxon Valdez oil spill and critically evaluate the clean-up strategies implemented.	CO5	K5
29.	What is bioleaching and how is it employed in the extraction of gold?	CO5	K5
