

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

M. Sc. DEGREE EXAMINATION - NOVEMBER 2024
BIOTECHNOLOGY
THIRD SEMESTER

COURSE : CORE
PAPER : ENVIRONMENTAL BIOTECHNOLOGY
SUBJECT CODE : 23BY/PC/ET34
TIME : 3 HOURS **MAX. MARKS: 100**

Q. No.	SECTION A (10 x 1 = 10) Answer ALL Questions	CO	KL
1.	In an ecosystem, the energy flow is a. Unidirectional b. Bidirectional c. In any direction d. Down direction	1	1
2.	The upper part of an aquatic ecosystem contains _____.	1	1
3.	Which of the following requires maximum energy? a. Secondary consumer b. Decomposer c. Primary consumer d. Primary producer	1	1
4.	According to Shelford's Law of Tolerance, the organisms wide environmental factor tolerance limit show _____.	1	1
5.	The natural place of an organism or community is known as _____.	1	1
6.	The differentiation of niches that enables similar species to coexist in a community _____.	1	1
7.	Metapopulations have limited genetic exchange (True/False).	1	1
8.	_____ are the primary causes of water pollution.	1	1
9.	Which of the following techniques is used for reducing the total dissolved solids (TDS) in the water? a. Osmosis b. Ion exchange c. Distillation d. Both b and c	1	1
10.	Reverse osmosis is _____ type of treatment.	1	1
Q. No.	SECTION – B (5 x 2 = 10) Answer ALL Questions	CO	KL
11.	Comment on habitat.	1	2
12.	Summarize niche.	1	2
13.	Compare community and population.	1	2

14.	Discuss environmental management.	1	2
15.	Infer primary treatment system.	1	2
Q. No.	SECTION C (4 x 10 = 40) Answer ALL Questions	CO	KL
16.	Discuss the models of metapopulation. (or) Compare the in-situ and ex-situ conservation.	2	3
17.	Present the strategies of textile waste management. (or) Predict how biosensors contribute in monitoring pollution.	2	3
18.	Outline applications of GIS in environmental monitoring. (or) Organize the waste management approaches for healthcare.	3	4
19.	Examine the role of rDNA technology on waste management. (or) Analyze microbial fuel cell.	3	4
Q. No.	SECTION – D (2 x 20 = 40) Answer ALL Questions	CO	KL
20.	Convince how nanoscience plays a role in environmental management. (or) Evaluate microbes in the bioleaching process.	4	5
21.	Explain why nature, structure, and attributes of community ecology is important. (or) Integrate the biotechnological principles of interventions of solid waste management.	5	6
