JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATIONS- 2024

M.Sc.-II Semester (Biotechnology)

COURSE CODE (CREDITS): 20MSWBT232 (02) MAX. MARKS: 15

COURSE NAME: Environmental Biotechnology

COURSE INSTRUCTORS: Ashok Kumar Nadda MAX. TIME: 1 Hour

Note: *(a) All questions are compulsory.*

(b) The candidate is allowed to make Suitable numeric assumptions wherever required for solving problems

Q.No	Question	Marks
	Section I	
Q1	(a) What are the differences between methanogens and methylotrophs? Give examples.	1
	(b) What qualifies as hazardous waste, and how is it classified?	1
	(c) How can you reduce the households waste and manage domestic waste sustainably?	1
	(d) What are the challenges of plastic and e-waste disposal from households?	1
	(e) How does environmental biotechnology promote renewable energy solutions and sustainability?	1
	Section II	
Q2	How do bacteria and fungi contribute to carbon sequestration in soil? What is the role of methanogenic bacteria in the carbon cycle?	1.5
Q 3	What is nitrification, and which microbes are involved? How do denitrifying bacteria impact atmospheric nitrogen levels?	1.5
Q 4	What nutrients and environmental conditions are optimized in biostimulation? What is bioaugmentation, and when is it used in bioremediation?	2.0
	Section III	
Q 5	What is the role of phosphate-solubilizing bacteria in making phosphorus bioavailable to plants? How do sulfur-reducing bacteria contribute to sulfur cycling?	2.5
Q 6	What factors affect the success of bioremediation? How do microbes break down pollutants in bioremediation? What are the various types of phytoremediation?	2.5
	Total marks	15