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JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -2 EXAMINATIONS- 2026

M.Sc.-II Semester (Biotechnology)

COURSE CODE (CREDITS): 20MSWBT232 (02)

MAX. MARKS: 25

COURSE NAME: Environmental Biotechnology

COURSE INSTRUCTORS: Ashok Kumar Nadda

MAX. TIME: 1.5 Hours

Note: (a) All questions are compulsory.

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

Q.No	Questions	Marks
Section I		
Q1	a) How does the biosorption and bioaccumulation differ in fungal remediation of heavy metals?	1
	b) Write short notes on Mycofiltration with suitable example.	1
	c) What are the biopumps? How does biopumps help in environmental remediation?	1
	d) What are the Superbugs? Give examples.	1
	e) Write a brief note on electrogenic microorganisms? State the application of electrogens with suitable example.	1
Section II		
Q2	Explain the ligninolytic enzyme system of white-rot fungi and how its non-specific oxidative mechanism enables degradation of xenobiotics such as pesticides and polycyclic aromatic hydrocarbons (PAHs).	2.5
Q 3	Compare mycoremediation and phytoremediation in terms of efficiency and application.	2.5
Q 4	How fungal cell walls contribute to binding heavy metals? Explain briefly.	2.5
Q 5	Why white-rot fungi are considered effective agents for pesticide degradation as compared to bacteria and other microorganisms?	2.5
Section III		

Q 6	How the radioactive pollutants do entered into the environment and affects the fauna and flora? Give an example of a microorganism that can potentially remediate the Uranium and its mechanism.	5
Q 7	What are the various mechanisms used by white rot fungi to degrade the pollutants present in wastewater. Give few examples of the	5
	Total marks	25