2211E784

Candidate's Seat No :_____

M.Sc Sem-3 Examination

503

Biotechnology

Time : 2-30 Hours] **November-2024** **[Max. Marks : 70**

Q-1		Discuss steps and events in MEOR with the role of microorganisms and their metabolites.	14
		OR	
Q-1	A	Discuss the concept of biorefinery.	07
	B	Discuss production of biohydrogen and write advantages of that method.	07
Q-2		Discuss the mechanism and pathways involved in the bioleaching of metals from sulfidic minerals with suitable illustrations.	14
		OR	
Q-2	A	Discuss various abiotic factors that affect the bioleaching of metals from their minerals.	07
	B	What is biobeneficiation? Explain mechanisms and microorganisms involved in biobeneficiation with suitable examples.	07
Q-3		Explain in detail the fundamental principles of bioremediation.	14
		OR	
Q-3	A	Discuss the use of plants for bioremediation.	07
	B	Write a short note on 'effect of heavy metals on bacterial cell' with a diagram.	07
Q-4		Discuss in detail marine resources and pharmaceutically important substances.	14
		OR	
Q-4	A	What are antimicrobial peptides? Discuss various types of antimicrobial peptides from marine microbes.	07
	B	Write a note on 'carotenoids and its applications'.	07
Q-5		Write the answer in brief (any seven)	14
	1	What is Biodiesel?	
	2	Define Gasification	
	3	Draw a photocell.	
	4	What is the significant difference between bioleaching and biooxidation?	
	5	Define - chemolithoautotropy	
	6	What is 'yellow boy'?	
	7	Give two names of electron accepters involved with anaerobic respiration.	
	8	Define - phytocheletins	
	9	Draw a flow chart of 'categories of contaminantes'.	
	10	What is aquaculture?	
	11	What is TGGE?	
	12	What are alarmins? Explain with one example.	