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C. U. SHAH UNIVERSITY

Winter Examination-2021

Subject Name : Environmental Microbiology

Subject Code: 5SC03EMB1 Branch: M.Sc. (Microbiology)

Semester: 3 Date: 14/12/2021 Time: 02:30 To 05:30 Marks: 70

Instructions:

- (1) Use of Programmable calculator and any other electronic instrument is prohibited.
- (2) Instructions written on main answer book are strictly to be obeyed.
- (3) Draw neat diagrams and figures (if necessary) at right places.
- (4) Assume suitable data if needed.

		SECTION – I	
Q-1		Attempt the Following questions	(07)
	a.	Define: Microbial Ecology	01
	b.	Municipal water is treated through the process of (chlorination/coagulation/filtration)	01
	c.	The study of group of organisms of different species which are associated together as a unit in form of a community known as (Autecology/Synecology)	01
	d.	Give example of any four microflora of soil.	01
	e.	Define: Rhizosphere	01
	f.	Rehabilitation is 'the process of assisting the recovery of an ecosystem that has been degraded, damaged, or destroyed'. (True/False)?	01
	g.	Define: Microbial Population	01
Q-2		Attempt all questions	(14)
	a.	Write brief note on Evolution of life on Earth	(4)
	b.	Write detail note on classification of soil with its properties.	(4)
	c.	Write down detail note on what is Biofilm and stages of biofilm formation with figure	(6)
		OR	
Q-2		Attempt all questions	(14)
	a.	What is Rehabilitation of habitat? Write short note on Rehabilitation of Mangroves.	(7)
	b.	Write detail note on what is Nutrient Dynamics and Spiraling of Nutrient in Lotic System.	(7)
Q-3		Attempt all questions	(14)
	a.	What is Biogeochemical cycle? Explain in detail about any two cycles.	(7)
	b.	Write a detail note on Eutrophication and control strategies for eutrophication.	(7)



OR

Q-3		Attempt all questions	(14)
	a.	Give introduction on Microbial ecology	(4)
	b.	What is VAM and write detail note on VAM.	(6)
	c.	Write detail note on Biome and types of biomes.	(4)
		SECTION – II	
Q-4		Attempt the Following questions	(07)
	a.	What is Biomagnification?	01
	b.	Define: Saccharification	01
	c.	What is Microbial Diversity?	01
	d.	MSW stands for?	01
	e.	Give any 3 Lignin degrading bacteria.	01
	f.	Give name of Cellulase producing organisms. (<i>P. aeruginosa/</i> Bacillus subtilis)	01
	g.	What is COD?	01
Q-5		Attempt all questions	(14)
	a.	Write in short about utilization of solid wastes as food, fuel, fertilizer.	(4)
	b.	Give short note on Use of micro-organisms in waste treatment	(4)
	c.	Write detail note on classification of waste treatment.	(6)
		OR	
Q-5		Attempt all questions	(14)
	a.	Write in detail about any two solid waste treatment.	(7)
	b.	Write detail note Biodegradation of lignin	(7)
Q-6		Attempt all questions	(14)
	a.	Write detail note on way of Petroleum pollutant biodegradation.	(6)
	b.	Write short note on microbial diversity	(4)
	c.	Write detail note on liquid waste characterization	(4)
		OR	
Q-6		Attempt all questions	(14)
	a.	Write a detail note on microbial cellulase production	(7)
	b.	What is liquid waste treatment? Write in detail any two liquid waste treatment.	(7)

