(OLD COURSE)
(3 Hours)

Total Marks:75

Q.1.	(a)		Discuss (any one):--	7
		(i)	Ethanol production from wastes	
		(ii)	Biopolymer production	
	(b)		Explain (any one):--	8
		(i)	Regulation and guidelines for recombinant DNA technology	
		(ii)	Design of biosensor	
Q.2.	(a)		Discuss (any one):--	7
		(i)	Basic principle of flux control design analysis	
		(ii)	Properties of model organism.*Caenorhabditiselegans* as modelorganism	
	(b)		Explain (any one):--	8
		(i)	Role of transposons in plant gene cloning	
		(ii)	Role of restriction endonucleases in gene cloning	
Q.3	(a)		Discuss (any one):--	7
		(i)	Bioinsecticides	
		(ii)	Patented microorganisms	
	(b)		Describe(any one):---	8
		(i)	Synthesis of nanomaterial	
		(ii)	Transgenic mice	
Q.4	(a)		Explain briefly(any one):---	7
		(i)	Extremozymes	
		(ii)	Insitu and exsitu bioremediation technique	
	(b)		Attempt (any one):--	8
		(i)	Write strategy used for improving antibiotic production by *Acremoniumchrysogenum*	
		(ii)	How keeping quality of fruits and vegetables is improved through Genetic engineering	
Q.5	(a)		Attempt any three:--	12
		(i)	Write principle of vermicomposting	
		(ii)	Biomonitors of environmental chemical pollution	
		(iii)	Bioremediation of dyes from industrial waste	
		(iv)	Discuss properties of marker genes used for detection of gene transfer in plants	
	(b)		Answer any one of the following:---	3
		(i)	Explain Single nucleotide polymorphism	
		(ii)	Explain role of nitrogenase enzyme in nitrogen fixation	

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