Seat No.: _____ **Enrolment No._____**

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–IV (NEW) - EXAMINATION – SUMMER 2017

Subject Code: 2143503 **Date: 06/06/2017**

Subject Name: Environmental Bioscience

Time: 10:30 AM to 01:00 PM **Total Marks: 70**

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

			MARKS
Q.1		Define the followings:	**14**
	1	Protein	
	2	Amino acid	
	3	Nutrient broth	
	4	Selective media	
	5	Environment	
	6	Biotechnology	
	7	Enzymes	
	8	Microorganism	
	9	Catabolism	
	10	Metabolism	
	11	Denitrification	
	12	Pure culture	
	13	Mixed culture	
	14	Anaerobic digestion	
Q.2	**(a)**	Write a short note on microbiology of air.	**03**
	(b)	Discuss the various functions of bacteria in environment.	**04**
	(c)	Discuss the interaction among the soil microorganism.	**07**
		OR	
	(c)	Discuss the microbial metabolism in brief.	**07**
Q.3	**(a)**	Write a short note on microbiology of water.	**03**
	(b)	Discuss the role of algae.	**04**
	(c)	Differentiate prokaryotic and eukaryotic cells.	**07**
		OR	
Q.3	**(a)**	Discuss the functions of amino acids.	**03**
	(b)	Enlist cell constituent and their functions.	**04**
	(c)	Briefly discuss the various phases of microbial growth curve.	**07**
Q.4	**(a)**	Discuss the characteristics of fungi.	**03**
	(b)	Write short note on biochemical transformation of carbon compounds.	**04**
	(c)	Briefly discuss biochemical transformation of nitrogen compounds.	**07**
		OR	
Q.4	**(a)**	Write a short notes on role of fungi in environment.	**03**
	(b)	Discuss the classification of culture media.	**04**

	(c)	What are the methods used for isolating pure culture? Discuss streak plate method in brief.	**07**
Q.5	**(a)**	Discuss the working of bio scrubber.	**03**
	(b)	Write a short notes on function and role of carbohydrates.	**04**
	(c)	What is Biogas? Discuss various steps involved in biogas production.	**07**

OR

Q.5	**(a)**	Write a short notes on functions of protein.	**03**
	(b)	Explain the primary structure of protein.	**04**
	(c)	Briefly discuss the classification of carbohydrates.	**07**

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