Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

ME - SEMESTER– II(New course) • EXAMINATION (Remedial) – WINTER- 2015

Subject Code: 2721601 **Date: 10/12/2015**

Subject Name: Industrial Biotechnology

Time:2:30 pm to 5:00 pm **Total Marks: 70**

Instructions:

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

Q.1	**(a)**	Sketch the Schematic diagram of fermentation process and explain the fermentation process in detail.	**07**
	(b)	Write in brief about the media and its component. Write about importance of water in a fermentation process.	**07**
Q.2	**(a)**	Explain Log phase and Lag phase of microorganismsô growth in batch culture.	**07**
	(b)	Discuss the different techniques for the preservation of industrially important microorganisms.	**07**
		OR	
	(b)	Discuss in detail about the screening of microorganisms.	**07**
Q.3	**(a)**	Define sterilization. Write about the different sterilization methods for the media.	**07**
	(b)	Write short note on óbioreactors and its basic featuresô.	**07**
		OR	
Q.3	**(a)**	Explain continuous sterilization process with its advantages.	**07**
	(b)	Write in brief about the criteria and parameters used for transfer of inoculums.	**07**
Q.4	**(a)**	Write in brief about the effect of foam and antifoam on oxygen transfer rate. Also describe mechanical foam breaker.	**07**
	(b)	What is Industrial biotechnology? Write about the application of it in various areas.	**07**
		OR	
Q.4	**(a)**	Write in detail about the production process of óPenicillinô.	**07**
	(b)	Give comparison between Solid state and Submerged fermentation.	**07**
Q.5	**(a)**	Write short notes on óBiofertilizer and Biopestcidesô.	**07**
	(b)	Write about the application and production of the óAmylaseô.	**07**
		OR	
Q.5	**(a)**	Illustrate the production process of the industrial alcohol with flow diagram.	**07**
	(b)	Explain scale up of fermentation process.	**07**

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