Seat No.: _____ *Enrolment No._____*

GUJARAT TECHNOLOGICAL UNIVERSITY

M. E. - SEMESTER – II • EXAMINATION – SUMMER • 2014

Subject code: 1721601 **Date: 16-06-2014**

Subject Name: Industrial Biotechnology

Time: 02:30 pm - 05:00 pm **Total Marks: 70**

Instructions:

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

Q.1	**(a)**	Discuss fermentation process with definition and scope. Also describe component parts of fermentation process with schematic representation.	**07**
	(b)	Write name of different carbon source for media and Discuss the selection criteria for carbon source as media component.	**07**
Q.2	**(a)**	Discuss chemostat and turbidostat with its classification.	**07**
	(b)	Explain recombinant DNA technology in detail.	**07**
		OR	
	(b)	Give classification and details of microorganism.	**07**
Q.3	**(a)**	What is Vitamin? Write a short note on vitamin B_{12}.	**07**
	(b)	Discuss the inoculum development program for yeast processes.	**07**
		OR	
Q.3	**(a)**	Explain enrichment culture using solidified media for isolation of microorganism.	**07**
	(b)	Discuss adverse effect of heat on media.	**07**
Q.4	**(a)**	Write different methods for preservation of microorganism in detail.	**07**
	(b)	Explain solid state fermentation in detail.	**07**
		OR	
Q.4	**(a)**	Explain modern industrial biotechnology in terms of biofertilizer and biopesticides.	**07**
	(b)	Write in detail about continuous sterilization.	**07**
Q.5	**(a)**	Discuss the effect of medium and culture rheology on oxygen transfer rate.	**07**
	(b)	What is enzyme? Write in brief about production process for óAmylaseô.	**07**
		OR	
Q.5	**(a)**	Discuss the production process for óCitric acidô production.	**07**
	(b)	Explain two different types of bioreactor in detail.	**07**

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