Seat No.: _____ *Enrolment No._____*

GUJARAT TECHNOLOGICAL UNIVERSITY

M. E. - SEMESTER – I • EXAMINATION – WINTER • 2014

Subject code: 1721601 **Date: 02-12-2014**

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)**	Describe the preservation of industrially important micro-organisms.	**07**
	(b)	Explain Fermentation Process with generalized Schematic representation.	**07**
Q.2	**(a)**	With graphical representation, Explain batch culture in detail.	**07**
	(b)	Explain primary and secondary metabolites with examples.	**07**
		OR	
	(b)	Discuss in detail about water and other energy sources as media component.	**07**
Q.3	**(a)**	Explain Recombinant DNA technology in detail.	**07**
	(b)	How industrially important micro-organism can be isolated utilizing selection of the desired characteristic?	**07**
		OR	
Q.3	**(a)**	What is inoculum? What are the required characteristics of inoculum for the desired inoculation?	**07**
	(b)	Explain traditional fermenter with all its parts and neat sketch.	**07**
Q.4	**(a)**	What are the criteria for transfer of inoculums?	**07**
	(b)	Explain sterilization. Explain effect of time of sterilization on population of micro-organism and yield of product with sketches.	**07**
		OR	
Q.4	**(a)**	Write a short note on óAntibioticsô.	**07**
	(b)	Explain Glutamic acid production in detail.	**07**
Q.5	**(a)**	Write in brief about production process for óbeerô.	**07**
	(b)	Explain importance of modern industrial biotechnology.	**07**
		OR	
Q.5	**(a)**	Write in brief about óBiopesticidesô.	**07**
	(b)	Explain óDual or Multipleô fermentation in detail.	**07**

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