Seat No.:	Enrolment No.
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GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VIII • EXAMINATION - WINTER • 2014

		oject Code: 181404 Date: 25-11-2014	
	Tin	oject Name: Food Fermentation Technology ne: 02:30 pm - 05:00 pm Total Marks: 70 ructions: 1. Attempt all questions. 2. Make suitable assumptions wherever necessary. 3. Figures to the right indicate full marks.	
Q.1	(a) (b)	Give requirements for industrial scale fermentor. Describe various types of spargers used in industrial fermentors	07 07
Q.2	(a)(b)	State various methods for determination of 'K La' value and explain any one in detail. Define containment and describe the process of containment level allocation for fermentation processes.	07 07
	(b)	OR Describe various methods for separation and purification of proteins	07
Q.3	(a) (b)	Enlist different types of valves used in fermentor and explain any two in detail. Write a detailed note on steam traps	07 07
Q.3	(a) (b)	OR Describe how 'Del factor' is calculated for heating up and cooling down periods? Give mathematical derivation for effect of temperature on reaction rate constant during sterilization.	07 07
Q.4	(a) (b)	Explain solid state fermentation technique with its advantages and disadvantages. Describe the technological process for preparation of wine. OR	07 07
Q.4	(a) (b)	Describe the role and sources of carbon in fermentation media Give ideal characteristics of inoculum and criteria used for transfer of inoculum to fermentation medium.	07 07
Q.5	(a)	Write short notes on any one of the following a. Gel filtration b. Affinity chromatography c. Iso-electric focusing	07
	(b)	Describe various types of impellors used in fermentor OR	07
Q.5	(a)	What do you mean by 'Del factor'? Give mathematical derivation for it.	07
	(b)	Give applications of industrial fermentation process and explain the upstream and downstream processing?	07
