Seat No.: _____ *Enrolment No._____*

GUJARAT TECHNOLOGICAL UNIVERSITY

BE SEM-III Examination May 2012

Subject Code: 131402

Subject Name: Basic Food Microbiology

Date: 15/05/2012 **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 marks.**

Q.1	**(a)**	Draw bacterial growth curve discuss various phase and physiological status of microorganism.	**07**
	(b)	Discuss basic techniques for isolation and enumeration of microorganisms from sample or sources.	**07**
Q.2	**(a)**	Classify the bacteria based on requirement of environmental factors (temp. pH, etc) for their growth.	**07**
	(b)	Introduce various staining techniques for visualization of bacteria and discuss any one in detail.	**07**
		OR	
	(b)	Explain sample preparation methods for electronic microscopy observation of biological samples.	**07**
Q.3	**(a)**	Differentiate between eukaryotic and prokaryotic cells of living organisms.	**07**
	(b)	Explain basic principle of magnification and sketch diagram of compound light microscope.	**07**
		OR	
Q.3	**(a)**	Explain various media, specific function of media, key ingredients and their role in media respectively.	**07**
	(b)	Discuss with diagram various mode of reproduction and cell division adopted in microorganism with suitable examples.	**07**
Q.4	**(a)**	Discuss nitrogen fixation in the soil from air by microorganisms with name and mechanism.	**07**
	(b)	Discuss with possible diagram methods adopted for preservation of microorganism.	**07**
		OR	
Q.4	**(a)**	Discuss water born pathogenic microorganism important in food processing.	**07**
	(b)	Explain role of high and low temperatures in controlling of microorganisms growth.	**07**
Q.5	**(a)**	Write short note on contribution of scientist Pasture's and Koch's Postulate in detail.	**07**
	(b)	Enlist methods and their applicability of various methods of food preservation to control of microorganisms.	**07**

OR

Q.5	**(a)**	Give account on structure and functions of plasma membrane of microorganism.	**07**
	(b)	Explain bacterial transformation and recombination.	**07**

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