GUJARAT TECHNOLOGICAL UNIVERSITY BE - SEMESTER- III (NEW)• EXAMINATION – Summer 2015

Subject Code: 2131407 Date: 29/05/201 Subject Name: Basic Food Microbiology			
		2.30pm-05.00pm Total Marks: 70	
Inst	tructio 1. 2. 3.	Attempt all questions. Make suitable assumptions wherever necessary.	
Q.1	(a) (b)	Describe the difference between gram positive and gram negative bacteria. Draw a diagram to depict the growth phases of microorganisms. Label the phases and give example of primary and secondary metabolite. During which phase these metabolites are produced?	07 07
Q.2	(a) (b)	Justify the comment "Louis Pasteur is aptly known as Father of microbiology" Describe the steps of gram staining. Give example of gram positive and negative bacteria.	07 07
	(b)	OR Describe various methods to control microorganisms using any physical and	07
		chemical agents.	
Q.3	(a) (b)	Draw a diagram to depict parts of compound bright field microscope. Describe koch postulates in form of flowchart.	07 07
Q.3	(a)	OR Describe three methods of preservation of microbial culture.	07
Q.5	(a) (b)	A typical bacterial cell increases from one cell to 256 cells in 10 hours. What is the generation time of this organism?	07 07
Q.4	(a)	Draw a diagram to depict the steps of transduction.	07
Z	(b)	Describe the role of intrinsic and extrinsic parameters affecting microbial growth in foods	07 07
		OR	
Q.4	(a)	What is the difference between HFr and F' plasmids? Draw diagram to depict conjugative transfer of plasmid DNA.	07
	(b)	Draw a diagram to depict a typical PCR cycle. What is the significance of Taq polymerase?	07
Q.5	(a)	Draw flowchart depicting steps of ELISA.	07
	(b)	Briefly describe Southern blotting technique. OR	07
Q.5	(a)	Describe the steps of acid fast staining. Why acid fast staining is also known as	07
_		differential staining? Give an example of acid fast bacteria & disease caused by it.	
	(b)	Describe significance of probiotics. Name any three probiotic microorganisms and any two probiotic food products available in Indian market.	07
