Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

B.PHARM – SEMESTER – V • EXAMINATION – WINTER – 2015

Subject Code: 2250002 **Date: 08/12/2015**

Subject Name: Pharmaceutical Microbiology and Biotechnology I

Time: 10.30 AM to 1.30 PM **Total Marks: 80**

Instructions:

1. **Attempt any five questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1	**(a)**	Define sterilization and classify the methods with mechanisms of action& name of the instrument used. Explain the autoclave.	**06**
	(b)	Give a brief account on mechanical method of sterilization.	**05**
	(c)	Write short notes on physical, chemical and biological indicators for checking the efficiency of autoclave.	**05**
Q.2	**(a)**	Give a brief account on various staining techniques to identify microbes.	**06**
	(b)	Classify the bacteria with respect to oxygen requirement, flagellar arrangement and temperature requirement.	**05**
	(c)	Write short notes on oxygen toxicity to anaerobic organisms.	**05**
Q.3	**(a)**	Explain the structure and taxonomy of Actinomycetes.	**06**
	(b)	Give a brief account on Electron microscopy technique.	**05**
	(c)	Define Generation time and explain various stages of bacterial growth curve.	**05**
Q.4	**(a)**	Explain Redeal walker coefficient test in comparison to Chick martin test.	**06**
	(b)	Enumerate the tests available for checking the efficiency of bacteriostatic activity.	**05**
	(c)	Name the various categories of disinfectants and their mechanism of action.	**05**
Q.5	**(a)**	Describe the structure of DNA and the process of DNA replication.	**06**
	(b)	Write short notes on scope of biotechnology.	**05**
	(c)	Give a brief account on restriction endonucleases.	**05**
Q. 6	**(a)**	Differentiate total and viable count. Explain the methods of determining total count.	**06**
	(b)	Explain various techniques of immobilization.	**05**
	(c)	Describe the structure of Virus and its cultivation methods.	**05**
Q.7	**(a)**	What are the factors affecting disinfectant action? Explain.	**06**
	(b)	Explain the gene expression in terms of LAC OPERON.	**05**
	(c)	Write short notes on EtO sterilization.	**05**

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