Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

B.Pharm - SEMESTER–V- (NEW SYLLABUS) EXAMINATION – SUMMER-2015

Subject code: 2250002 **Date: 30/04/2015**

Subject Name: Pharmaceutical Microbiology & Biotechnology-I

Time: 2.30 pm to 5.30 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)	Discuss the Scope of Microbiology	**06**
	(b)	Define the terms: Bioburden, Sterilization, D- value, Incineration, MIC.	**05**
	(c)	Discuss the following Staining methods in brief: 1. Gram Staining 2. Spore staining	**05**
Q.2	(a)	Describe biological indicators for monitoring sterilization processes	**06**
	(b)	Enumerate the factors affecting disinfection. Discuss any two.	**05**
	(c)	Write short note on fungi.	**05**
Q.3	(a)	Classify the methods of sterilization. Discuss Hot air oven with its applications.	**06**
	(b)	Explain the Growth Promotion test.	**05**
	(c)	Write a brief note on protein synthesis.	**05**
Q.4	(a)	Discuss methods for evaluation of disinfectants.	**06**
	(b)	Write note on Scanning Electron Microscopy.	**05**
	(c)	Give the nutritional requirements for microorganisms.	**05**
Q.5	(a)	Differentiate following: 1) Gram -ve and Gram +ve Bacteria. 2) Spores and capsules	**06**
	(b)	Write detail note on spirochetes.	**05**
	(c)	Why test for sterility is carried out? What is the importance of Control test in the test for sterility?	**05**
Q. 6	(a)	Draw a labeled diagram of bacterial cell. Explain flagella.	**06**
	(b)	Write down ideal requirements of disinfectant. Write mode of action of Phenol.	**05**
	(c)	Enumerate various techniques of immobilization of enzymes and explain any one.	**05**
Q. 7	(a)	Explain: Total count & Viable count.	**06**
	(b)	Differentiate: DNA & RNA.	**05**
	(c)	Give the difference between prokaryotic cell and eukaryotic cell.	**05**

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