

Seat No.: \_\_\_\_\_

Enrolment No. \_\_\_\_\_

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**B. Pharm. – SEMESTER – V • EXAMINATION – WINTER • 2016**

**Subject Code: 250002**

**Date: 22-11-2016**

**Subject Name: Pharmaceutical Microbiology - I**

**Time: 10:30 am - 01:30 pm**

**Total Marks: 80**

**Instructions:**

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

<b>Q.1</b>	(a)	Discuss the scope of microbiology in Pharmaceutical industry.	<b>06</b>
	(b)	Enlist the various microscopic techniques. Describe in brief about SEM.	<b>05</b>
	(c)	Write a note on Ricktsia.	<b>05</b>
<b>Q.2</b>	(a)	Differentiate gram positive and gram negative microorganisms.	<b>06</b>
	(b)	Classify the various media for bacterial growth. Explain selective Media.	<b>05</b>
	(c)	Define ‘sterilization’. Explain moist heat sterilization with its mechanism of action.	<b>05</b>
<b>Q.3</b>	(a)	Describe various methods used for classification of bacteria. Explain morphological classification of bacteria.	<b>06</b>
	(b)	Write a note on evaluation of disinfection.	<b>05</b>
	(c)	Classify the staining techniques. Describe Ziehl-Neelsen staining method	<b>05</b>
<b>Q.4</b>	(a)	Classify type of bacteria on the basis of : i) Nutritional requirement ii) Temperature requirement	<b>06</b>
	(b)	Enumerate methods for evaluation of disinfectants. Describe Rideal-Walker test	<b>05</b>
	(c)	Describe biological indicators for monitoring sterilization processes.	<b>05</b>
<b>Q.5</b>	(a)	Enumerate the factors affecting on disinfection. Discuss any two.	<b>06</b>
	(b)	Enlist methods for sterility testing. Discuss direct inoculation method.	<b>05</b>
	(c)	Describe growth curve of bacteria with labeled diagram.	<b>05</b>
<b>Q. 6</b>	(a)	Classify the various methods of bacterial counts. Discuss the plate count technique.	<b>06</b>
	(b)	Discuss the principle underlying microbiological assay of vitamins.	<b>05</b>
	(c)	Draw a labeled diagram of bacterial cell. Explain flagella.	<b>05</b>
<b>Q.7</b>	(a)	Write significance of sterility testing in pharmaceuticals. Describe methods for sterility testing for sterile gauze.	<b>06</b>
	(b)	Write a note on validation of filtration sterilization.	<b>05</b>
	(c)	Write taxonomy of Rickettsia, Actinomycetes.	<b>05</b>

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