

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**B. Pharm - SEMESTER-V - EXAMINATION – SUMMER 2017**

**Subject Code: 2250002****Date: 29/05/2017****Subject Name: Pharmaceutical Microbiology & Biotechnology I****Time: 10:30 AM to 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	<b>06</b>
	(b) Enumerate methods for evaluation of disinfectants. Describe Rideal-Walker test.	<b>05</b>
	(c) Explain: D- value, F- value, Z- value, Q10- value, Inactivation factor	<b>05</b>
<b>Q.2</b>	(a) Classify the microorganisms. Differentiate the bacteria and viruses.	<b>06</b>
	(b) Discuss electron microscopy with its applications	<b>05</b>
	(c) Describe biological indicators for monitoring sterilization processes	<b>05</b>
<b>Q.3</b>	(a) Classify the staining techniques. Discuss gram staining method	<b>06</b>
	(b) Discuss in Detail about genetic code and its properties	<b>05</b>
	(c) Write a brief note on Spirochetes.	<b>05</b>
<b>Q.4</b>	(a) Classify the disinfectants. Discuss the mechanism of action of any two.	<b>06</b>
	(b) Differentiate between: (i) capsule and spore (ii) Selective and differential media	<b>05</b>
	(c) Discuss factors affecting disinfection.	<b>05</b>
<b>Q.5</b>	(a) Write a note on an autoclave.	<b>06</b>
	(b) Draw a labeled diagram of bacterial cell. Explain flagella.	<b>05</b>
	(c) Write a note on gaseous sterilization	<b>05</b>
<b>Q. 6</b>	(a) Define total counts. Enlist methods for total count and discuss any one.	<b>06</b>
	(b) Explain various techniques of immobilization	<b>05</b>
	(c) Discuss the nutritional requirement of microbes.	<b>05</b>
<b>Q.7</b>	(a) Explain salient features of enzyme immobilization.	<b>06</b>
	(b) Describe the structure of DNA and the process of DNA replication	<b>05</b>
	(c) Write short note on scope of biotechnology	<b>05</b>

\*\*\*\*\*