Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY
B. PHARM (SEMESTER-5) (Old Syllabus) SUMMER-2015

Subject code: 250002 **Date: 30/04/2015**
Subject Name: Pharmaceutical Microbiology-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)	Describe the flagella. Write factor affecting growth of microorganism.	**06**
	(b)	What is pharmaceutical microbiology? Write in brief its scope.	**05**
	(c)	Classify microorganism as per their oxygen requirement. Enlist factor affecting the growth of microorganism.	**05**
Q.2	(a)	Describe various methods used for isolation of microorganism with its advantages and disadvantages.	**06**
	(b)	Classify staining techniques. Discuss gram staining.	**05**
	(c)	Differentiate gram positive and gram negative microorganisms.	**05**
Q.3	(a)	Classify the various media for bacterial growth. Differentiate Selective and Differential media.	**06**
	(b)	Describe Rideal – Walker test.	**05**
	(c)	Define and classify disinfectant. Write about factor affecting disinfectant's efficacy.	**05**
Q.4	(a)	Explain D, Z and F values. Write significance in validation of sterilization.	**06**
	(b)	Write note on an Autoclave	**05**
	(c)	Explain: Bioburden, Thermal death point, SAL, Bactericide, MIC.	**05**
Q.5	(a)	Explain principle involved in microbiological assay of antibiotics.	**06**
	(b)	Describe ditch plate method for microbiological assay.	**05**
	(c)	Write short note on 'Laminar Air Flow'.	**05**
Q. 6	(a)	Enlist methods for sterility testing. Discuss direct inoculation method.	**06**
	(b)	Write note on Gaseous sterilization.	**05**
	(c)	Describe various chemical & biological sterilization indicators.	**05**
Q.7	(a)	Write a note on nutritional requirements of microorganism.	**06**
	(b)	Write detail note on spirochetes.	**05**
	(c)	Discuss microbiological assay of cyanocobalamine.	**05**

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