

GUJARAT TECHNOLOGICAL UNIVERSITY
B.PHARM – SEMESTER – 5 EXAMINATION – SUMMER-2025

Subject Code: BP504TP**Date: 16-05-2025****Subject Name: Pharmaceutical Microbiology****Time: 02.30 PM TO 05.30 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) Differentiate **06**
a) Screen and Depth filters b) Prokaryotes and Eukaryotes
c) Sterilization and Disinfection
- (b) Give a brief account on various animal cell culture methods **05**
(c) Explain viable count methods **05**
- Q.2** (a) State reasons for the following: **06**
i) Special media like thioglycollate and soyabean casein digest medium are used in test for sterility instead of simple Nutrient Broth
ii) In microbial experiments, 18 to 24 h bacterial cultures are used and not older cultures.
iii) Alcohol 70% is more effective than absolute alcohol as an antiseptic.
- (b) Write short notes on Preservation of Pure cultures **05**
(c) Give a brief account on Microbiological assay of Vitamin B1 **05**
- Q.3** (a) Compare & Contrast Phenol Coefficient tests of Disinfectants in a tabular form **06**
(b) Write short notes on Isolation of Pure cultures **05**
(c) Write short notes on Preservation of Pharmaceutical Products **05**
- Q.4** (a) Explain Differential Staining techniques **06**
(b) Fill up the blanks: **05**
1) Biological indicator for autoclave Validation is _____
2) Organism for test for sterility as positive control in Soyabean Casein Digest media is _____
3) Test organism for Erythromycin Microbiological assay is _____
4) Nylon 66 filter is made of _____
5) Example for Acid fast organism is _____
- (c) How to interpret the results for Test for sterility and conditions of repeating? **05**

Q.5	(a)	State the types of disinfectants and their mechanism of action	06
	(b)	Explain the working and construction of Horizontal Autoclave with a neat labeled diagram (not of the vertical autoclave)	05
	(c)	Explain Sporulation cycle of Bacteria with a neat flow diagram of the steps involved in it.	05
Q. 6	(a)	Classify Viruses and explain Bacteriophage	06
	(b)	Define: Bioburden, D value, Z value, Inactivation factor, Spore	05
	(c)	How to sterilize the following? i) Surgical catgut ii) Intra Ocular lens used for cataract operation iii) Intravenous infusion set iv) Surgical Powders v) Oily Hormonal injections vi) Bone transplants vii) Plastic syringes viii) Nutrient broth ix) Petridishes x) Pipettes	05
Q.7	(a)	Explain the design of Aseptic area with the types of Laminar Air Flow hood.	06
	(b)	What are the types of spoilage and sources of microbial contamination?	05
	(c)	Explain IMViC tests utilized for identification of microbes	05
