

GUJARAT TECHNOLOGICAL UNIVERSITY**B.PHARM – SEMESTER – V • EXAMINATION – WINTER – 2015****Subject Code: 2250002****Date: 08/12/2015****Subject Name: Pharmaceutical Microbiology and Biotechnology I****Time: 10.30 AM to 1.30 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) Define sterilization and classify the methods with mechanisms of action & name of the instrument used. Explain the autoclave. **06**
- (b) Give a brief account on mechanical method of sterilization. **05**
- (c) Write short notes on physical, chemical and biological indicators for checking the efficiency of autoclave. **05**
- Q.2** (a) Give a brief account on various staining techniques to identify microbes. **06**
- (b) Classify the bacteria with respect to oxygen requirement, flagellar arrangement and temperature requirement. **05**
- (c) Write short notes on oxygen toxicity to anaerobic organisms. **05**
- Q.3** (a) Explain the structure and taxonomy of Actinomycetes. **06**
- (b) Give a brief account on Electron microscopy technique. **05**
- (c) Define Generation time and explain various stages of bacterial growth curve. **05**
- Q.4** (a) Explain Redial walker coefficient test in comparison to Chick martin test. **06**
- (b) Enumerate the tests available for checking the efficiency of bacteriostatic activity. **05**
- (c) Name the various categories of disinfectants and their mechanism of action. **05**
- Q.5** (a) Describe the structure of DNA and the process of DNA replication. **06**
- (b) Write short notes on scope of biotechnology. **05**
- (c) Give a brief account on restriction endonucleases. **05**
- Q.6** (a) Differentiate total and viable count. Explain the methods of determining total count. **06**
- (b) Explain various techniques of immobilization. **05**
- (c) Describe the structure of Virus and its cultivation methods. **05**
- Q.7** (a) What are the factors affecting disinfectant action? Explain. **06**
- (b) Explain the gene expression in terms of LAC OPERON. **05**
- (c) Write short notes on EtO sterilization. **05**
