

QP CODE: 301006 (old scheme)

Reg. No:

**Third Year B.Pharm Degree Supplementary Examinations
January 2018**

PHARMACEUTICS IV

(Pharmaceutical Microbiology and Biotechnology)

(2010 Scheme)

Time: 3 Hours

Total Marks: 100

- Answer all Questions.
- Draw diagram wherever necessary.

Essay

(3x10=30)

1. Briefly explain different methods of sterilization
2. Discuss about different techniques of immobilization of enzymes
3. Explain the structure of bacterial cell with the help of a neat labelled diagram

Short notes

(14x5=70)

4. Scope of microbiology in pharmaceutical sciences
5. Classification of microbes
6. Classification of culture media with examples
7. Bacteriophages
8. Medical and pharmaceutical importance of fungi
9. Transformation
10. Applications of gene cloning
11. Standardization of immunological products
12. Brief description on vaccines and sera
13. Hybridoma technology in the production of monoclonal antibodies
14. Evaluation of disinfectants
15. Hypersensitivity
16. Microbial assay of antibiotics
17. Fermenter design
