

# **2010 Scheme**

**QP CODE: 301006**

**Reg. No: .....**

## **Third Year B.Pharm Degree Supplementary Examinations June 2022**

### **Pharmaceutics IV**

#### **(Pharmaceutical Microbiology and Biotechnology)**

**Time: 3 Hours**

**Total Marks: 100**

- *Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space*
- *Answer all parts of a single question together • Leave sufficient space between answers*
- *Write chemical structures/equations wherever necessary.*

**Essays**

**(3x10=30)**

1. Define endospores. Elaborate on the stains and types of staining techniques for bacterial cells.
2. Explain immunity. Explain the defense mechanisms of body and microbial resistance in detail.
3. Define sterilization. Describe the different methods of sterilization.

**Short notes**

**(14x5=70)**

4. Explain biochemical methods to identify important pathogenic microorganisms.
5. Classification and structure of viruses.
6. Explain transformation and conjugation.
7. Transgenesis and its applications.
8. Explain development of hybridoma for monoclonal antibodies.
9. Factors influencing disinfection.
10. Antigen-antibody reaction and its applications.
11. Microbial assay of antibiotics.
12. Explain any two techniques of immobilization of enzymes.
13. Fermentation and its types.
14. Cultivation of aerobes.
15. Types of culture media with examples.
16. Factors influencing rate of mutation.
17. Virus-host interactions.

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