

# **2010 Scheme**

**QP CODE: 301006**

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

## **Third Year B.Pharm Degree Supplementary Examinations May 2023**

### **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. What is microscopy. Give a brief account on various types of microscopes.
2. Explain in detail the characteristics of antigen, antibody reactions and their applications.
3. Define enzyme immobilization. Describe the various methods used for immobilization of enzymes.

**Short notes**

**(14x5=70)**

4. Write a note on the isolation of pure culture.
5. Explain the methods of cultivation of viruses.
6. Explain transduction and transformation.
7. Define gene cloning. Write its applications.
8. Define immunity and describe various types of immunity.
9. Monoclonal antibodies.
10. Dry heat sterilization.
11. Name the evaluation methods of disinfectants. Brief anyone.
12. Explain microbial assay of antibiotics.
13. Explain the extraction of amylase.
14. Mention the biochemical methods for identification of bacteria.
15. Write a note on the types of reactions mediated during microbial transformation with example.
16. Write briefly on the fermenter design and its various controls.
17. Explain in detail about gram staining and its significance.

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