

# **2012 Scheme**

**Q P CODE: 311006**

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

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

### **Pharmaceutics III**

#### **(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. Explain the terms stains and staining techniques of bacteria. Discuss the principle and procedure of simple staining, Gram's staining and acid fast staining technique.
2. Explain the term Recombinant DNA technology. Discuss in detail about conjugation, transduction and transformation in bacteria.
3. Explain the principle, procedure, applications, merits and demerits of sterilization using autoclave.

**Short notes**

**(14x5=70)**

4. Various microscopy techniques.
5. Virus-Host interactions.
6. What are flagella. Explain the structure and functions of flagella
7. Explain about microbial assay of antibiotics.
8. Explain the term gene cloning and discuss its applications.
9. Interferons and their role in immunity.
10. Different types of Vaccines.
11. What are monoclonal antibodies and discuss their applications.
12. Rideal Walker's test.
13. Write a note on biological indicators used in validation of dry heat sterilization
14. Explain the production of alcohol by fermentation.
15. Write a note on Enzyme immobilization techniques.
16. Explain microbial biotransformation reactions with examples.
17. Write a note on Antigen-Antibody reactions.

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