

2012 Scheme

Q P CODE: 311006

Reg. No:

Third Year B.Pharm Degree Supplementary Examinations March 2024 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 structure of a bacterial cell along with the help of a diagram.
2. What are antigens. Explain the various types of antigen antibody reactions and their applications.
3. What is sterilization. Classify the different methods of sterilization. Discuss in detail the principle, working procedure, advantage and disadvantage of hot air oven.

Short notes

(14x5=70)

4. Write about classification of virus.
5. Write principle and procedure of Gram's staining technique.
6. Classify bacterial culture media with examples.
7. Explain conjugation. Write its significance.
8. Humoral immunity.
9. Storage and stability of vaccines.
10. Gaseous sterilization.
11. Describe the production of Vitamin B₁₂.
12. With a neat, labelled diagram, explain the design of an industrial fermenter.
13. Discuss in detail the different techniques used for enzyme immobilization.
14. What are the applications of gene-cloning.
15. Discuss briefly the production of monoclonal antibody by hybridoma technology.
16. Explain electron microscopy technique used in microbiology.
17. What are disinfectants and explain any one method used for evaluating disinfectants.
