

2010 Scheme

QP CODE: 301006 (old scheme)

Reg. No:

**Third Year B.Pharm Degree Supplementary Examinations
November 2019
Pharmaceutics IV
(Pharmaceutical Microbiology and Biotechnology)**

Time: 3 Hours

Total Marks: 100

- Answer all Questions.
- Draw diagram wherever necessary.

Essays

(3x10=30)

1. Explain types of culture media with examples. Why agar is called an ideal solidifying agent
2. Explain disinfectant evaluation by Chick Martin test with its merits and demerits
3. Discuss the production of vitamin B₁₂ by fermentation

Short notes

(14x5=70)

4. How are anaerobes cultivated
5. Mutation techniques
6. Formation of bacterial spore and capsule
7. Enlist the techniques of immobilization of enzymes and explain any three of them
8. Differentiate antiseptic and disinfectant. Enlist factors affecting disinfectants
9. Classify fermentation process with suitable examples
10. Explain transformation and transduction
11. Sterilization by radiation
12. Write the applications of monoclonal antibodies
13. Explain the cultivation of viruses
14. Antigen-antibody reactions with their applications
15. Standardization process of vaccines
16. Explain gene cloning with their applications
17. Explain the importance of sterilization indicators
