

2010 Scheme

QP CODE: 301006

Reg. No:

**Third Year B.Pharm Degree Supplementary Examinations
January 2021
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. Write the principle and procedure involved in Gram staining and acid fast staining with examples
2. Discuss production of Penicillin by fermentation
3. Explain principle, method, validation and application of sterilizing equipment by dry heat

Short notes

(14x5=70)

4. Explain virus host interactions
5. Hybridoma techniques
6. Explain parameters affecting fermentation process
7. How are bacterial vaccines standardized
8. Explain the structure and reproduction of fungi.
9. Sterility test by direct inoculation
10. Bacterial counting techniques
11. Different evaluation methods of bacteriostatic and bactericidal substances
12. Explain enriched, selective and differential media with suitable example
13. Active and passive immunization
14. Microbial assay of antibiotics
15. Gaseous sterilization
16. Protoplast fusion
17. Explain principle and procedure of ELISA
