

# **2012 Scheme**

**Q P CODE: 311006**

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

**Third Year B.Pharm Degree Supplementary Examinations  
January 2021  
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. Describe in detail about fermenter and its accessories with a neat diagram.
2. Describe the production of vitamin B12 with a neat flow sheet diagram.
3. Explain in detail about the different methods used to isolate a pure culture.

**Short notes**

**(14x5=70)**

4. Principle involved in dry heat sterilization.
5. Discuss the importance of sterility testing of pharmaceutical products.
6. Discuss about active and passive immunization.
7. Define hypersensitivity reaction. List various types of hypersensitivity with examples.
8. Production of amylase.
9. Describe about various types of vaccines.
10. Define immunity. Mention the role of interferons in immunity.
11. Discuss about factors influencing the rate of mutation.
12. Methods used to isolate mutants.
13. Endospores and mechanism of spore formation.
14. Importance of microbial transformation.
15. Cultivation of viruses.
16. Discuss about fungi with regard to pharmaceutical importance.
17. Immunological tolerance.

\*\*\*\*\*