

# **2012 Scheme**

**Q P CODE: 311006**

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

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

**Time: 3 Hours**

**Total Marks: 100**

- Answer all Questions.
- Draw diagram wherever necessary.

**Essays**

**(3x10=30)**

1. Define and classify sterilization methods and describe the construction and working of an autoclave with a neat labeled diagram.
2. Describe the fermentative production, extraction and purification of Penicillin.
3. What is the significance of sterility testing. Describe the methods used for sterility testing of pharmaceutical products.

**Short notes**

**(14x5=70)**

4. Write about simple staining and the theory of staining
5. Gene cloning and their applications.
6. Discuss about primary and secondary defensive mechanisms of body.
7. Structure of the bacterial cell
8. Cultivation of viruses.
9. Culture media and its classification with examples.
10. Discuss about differential staining.
11. Define and enumerate antigen-antibody reactions.
12. Describe in detail about the microbiological assay of Penicillin.
13. Types of vaccines with examples
14. Biochemical tests that are useful in the identification of microorganisms.
15. Microbial transformation of steroids.
16. Factors influencing disinfectants.
17. Explain the media and conditions used for alcohol production

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