

**Third Year B.Pharm(Ayurveda) Degree Supplementary Examinations,  
March 2015**

**Pharmaceutical Microbiology & Biotechnology**

Time : 3 Hours

Total Marks:100

- Answer all questions.
- Write **SECTION A** and **SECTION B** in separate Answer books(32 Pages). Do not mix up questions from Section A and Section B.

**QP CODE:304008****Section A- Microbiology****Marks:50****Essay:****(1x10=10)**

1. Describe the general characteristics of viruses and explain viral multiplication.

**Short notes:****(5x5=25)**

2. Sterility indicators and mention the performance of a sterilization process.
3. Compare the Chick Martin and Kelsey-Sykes tests for the evaluation of disinfection.
4. Explain the structure and reproduction of molds and yeast.
5. Explain the cylinder-plate method of microbiological assays of antibiotics.
6. Making of hanging drop preparation and mention its purpose, merits & limitations.

**Answer briefly:****(5x3=15)**

7. Differential media.
8. Bacterial growth curve.
9. Negative staining.
10. Culture techniques.
11. Conjugation.

**QP CODE:308008****Section B - Biotechnology****Marks:50****Essay:****(1x10=10)**

1. Define antibiotics. Explain the screening of the microbes that produce antibiotics and procedure of preparation of penicillin.

**Short notes:****(5x5=25)**

2. Define and classify immunization.
3. Monoclonal antibodies and its preparation
4. Bacterial vaccines.
5. Submerged fermentation technique.
6. Define bioreactor and explain design of any two fermentor with labeled diagram.

**Answer briefly:****(5x3=15)**

7. Application of gene cloning.
8. Transduction and transformation.
9. Rabies vaccine.
10. "ELISA".
11. Mutation and mention the factors influencing the rate of mutation.

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