

Third Year B.Pharm(Ayurveda) Degree Examinations, October 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. Discuss the different staining techniques with its uses.

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

2. Classification of virus based on the capsid structure.
3. Explain the working of hot air oven and mention the precautions to be observed while sterilizing.
4. Electron microscopy.
5. Explain the procedure and mechanism of gram staining. Name five gram positive and gram negative bacteria.
6. Salient features of bacteria.

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

7. Pure culture technique and its need.
8. Rickettsia.
9. Differentiate between bacteriostatic and bacteriocidal.
10. Differentiate between toxins and toxoids.
11. Pharmaceutical importance of fungi.

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

1. Explain about genetic recombination. Mention the methods of transfer of genetic material.

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

2. Define and classify immunity. Add a note on humoral immunity.
3. Polio myelitis vaccine.
4. Microbial transformation with examples.
5. Rickettsial vaccine.
6. Applications of antigen antibody reactions.

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

7. Application of cloning.
8. Trickling film bioreactor.
9. Transduction.
10. Techniques involved in the enzymes immobilization.
11. Principles of antigens and haptens.
