

**Third B.Pharm (Ayurveda) Degree Supplementary Examinations April 2018**  
**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:**

**(10)**

1. Describe different staining techniques for bacteria and fungi

**Short notes:**

**(5x5=25)**

2. Sterility testing of pharmaceutical products.
3. Explain structure, function and bacterial types of flagella.
4. Transmission electron microscope.
5. Explain Rideal walker method of validation of disinfectants.
6. Explain in brief methods of cultivation of viruses

**Answer briefly:**

**(5x3=15)**

7. Name any three selective and differential media.
8. Write the characteristics of adaptive immunity.
9. Explain cold sterilization method.
10. Name any three fungal growth culture media.
11. How disinfection and sterilization differ from each other

**QP CODE: 308008**

**Section B - Biotechnology**

**Marks: 50**

**Essay:**

**(10)**

1. Describe various methods of antigen – antibody reactions

**Short notes:**

**(5x5=25)**

2. Enumerate various applications of monoclonal antibodies.
3. Define microbial transformation and classify transformation methods.
4. Give the preparation, storage, packing and labeling of viral vaccines.
5. The fermentation method for tetracycline production.
6. Draw and describe the general structure of antibodies

**Answer briefly:**

**(5x3=15)**

7. How are monoclonal antibodies produced
8. Define natural and defined media. Give examples of each.
9. Write the full forms of: • BCG • HPV • MMR
10. Define: • epitope • immunogen • passive immunity
11. Write the application of following immobilized enzymes: • Amylase • Streptokinase  
• hyaluronidase