

**Third B.Pharm (Ayurveda) Degree Supplementary Examinations  
November 2021  
Pharmaceutical Microbiology & 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*
- *Draw table/diagrams/flow charts wherever necessary*
- *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. Explain in detail various structures external to the cell wall in the bacterial cell

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

2. Describe general methods of microbiological assay of antibiotics.
3. Define immunity. Explain physiological and anatomical barriers of innate immunity.
4. Explain scanning electron microscope.
5. What is microbial resistance
6. Enumerate various characteristics of an ideal disinfectant

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

7. Define plasmid and mention its various roles.
8. What are the differences between: • moulds and yeast • bacteria and spirochetes • viruses and rickettsiae.
9. Enumerate various uses of pure culture
10. Name three gram negative bacteria.
11. What are interferons

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

1. Explain the different methods of immobilization

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

2. Define hybridoma and explain its significance in industrial microbiology.
3. Describe the preparation, storage, packing and labeling of a bacterial vaccine.
4. Enumerate the characteristics of an ideal fermenter.
5. Describe briefly type I and type II hypersensitivity.
6. B and T cells

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

7. Explain immunization. What are immunization products.
8. Structure of Antibodies
9. What are semisynthetic penicillins
10. Define conjugation, transduction and transformation.
11. What are phagocytic cells