

Sl.No: M19404

Course Code: 2910411

**VINAYAKA MISSION'S RESEARCH FOUNDATIONS, SALEM**  
(Deemed to be University)

**B.PHARM. DEGREE EXAMINATION – August 2018**  
**Fourth Year**

**PHARMACEUTICAL BIOTECHNOLOGY**

Time : Three hours

Maximum: 70 marks

I. Write essays on any **TWO** questions: (2 x 15 = 30)

1. Draw a labeled diagram of bacterial cell. Explain flagella. Write note on electron microscope. Discuss about Spirochete
2. Define disinfection. Classify and write note on factors affecting disinfectants and discuss any two. Write note on Phenol- coefficient test. Discuss nutritional requirements of microbes
3. Explain the principle involved in microbiological assay of antibiotics. How will you perform assay of vitamin B12 as per I. P

II. Write short essays on any **SIX** questions: (6 x 5 = 30)

4. Explain the reproduction of Fungi
5. Explain the production of citric acid by fermentation method
6. Explain the application of biosensor
7. Write a note on sterilization indicators
8. Production of Hepatitis- B vaccine using recombinant DNA techniques
9. Write a note on etiology, source, diagnosis of typhoid
10. Describe the principle and significance of sterility test
11. Explain microbial biotransformation

III. Write short notes on any **FIVE** questions: (5 x 2 = 10)

12. Origin of replication
13. Bacterial filaments
14. Define immobilization of enzymes
15. Define primary cell structure
16. Media used for sterility testing
17. Southern blot

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