

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

B.PHARM. DEGREE EXAMINATION – August 2018
First Year

PHARMACEUTICAL BIOTECHNOLOGY

Time : Three hours

Maximum: 90 marks

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

1. Discuss about morphology, structure and life cycle of virus.
2. Define hybridoma technology. And explain in detail about techniques used in production of monoclonal antibodies and their applications.
3. Define immobilization of enzyme and explain various techniques involved in immobilization of enzyme with application.

II. Write short essays on any **EIGHT** questions: **(8 x 5 = 40)**

4. Identification of bacteria
5. Growth curve of bacteria
6. Transposable elements
7. Production of single cell protein
8. Structure and function of MHC
9. Southern Blot
10. Restriction endonuclease
11. Tuberculosis
12. Classification of enzymes
13. Various parts of fermenter

III. Write short notes on any **TEN** questions: **(10 x 2 = 20)**

14. Define protozoa.
15. Define sterilization.
16. Medium used for sterility testing.
17. Define antigen.
18. Difference between western blot and southern blot
19. Define ELISA.
20. Applications of genetic engineering
21. Advantages of filtration techniques
22. Name the microorganism used in microbial assay of vitamins.
23. Define attenuated vaccine.

24. Applications of northern blot.
