

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

B.PHARM. DEGREE EXAMINATION – October 2021
Sixth Semester

PHARMACEUTICAL BIOTECHNOLOGY

Time : Three hours

Maximum: 75 marks

I. Write essays on any **TWO** questions: (2 x 10 = 20)

1. Define enzyme. and Write various methods of immobilization of enzyme.
2. Explain the production and purification of Mono clonal Antibodies.
3. Explain the industrial production of citric acid.

II. Write short answers on any **SEVEN** questions: (7 x 5 = 35)

4. Steps involved in rDNA technology.
5. Working principle of biosensor.
6. Write the difference between restriction endonuclease and DNA ligase.
7. Write about immunoglobulins.
8. Types of mutation.
9. Importance of aeration process in fermentor.
10. Structure of MHC.
11. Draw a typical diagram of fermentor.
12. Stability of official vaccines.

III. Write short notes on : (10 x 2 = 20)

13. Industrial use of catalase.
14. Industrial use of peroxidase.
15. Application of biosensor.
16. Any two application of enzyme immobilization.
17. Define hypersensitivity.
18. Define microbial genetics.
19. List out official vaccine.
20. Function of plasmid.
21. Function of sparger.
22. Define antigen.
