

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

B.PHARM. DEGREE EXAMINATION – February 2020
Fourth Year

PHARMACEUTICAL BIOTECHNOLOGY

Time : Three hours

Maximum: 70 marks

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

1. Define the term sterilization. Add a note on different types of sterilization methods with its merits and demerits.
2. Discuss in detail standardization and application of official vaccines with its stability condition.
3. Explain the application of recombinant DNA technology and genetic engineering in production of insulin.

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

4. Glutamic acid.
5. Gene expression.
6. Hybridoma technology.
7. Types of immunity.
8. Conjugation.
9. Tuberculosis.
10. Evaluation of preservatives.
11. Immobilization techniques.

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

12. Cloning strategies.
13. Staining techniques.
14. Western blot
15. Transformation.
16. Streptokinase.
17. Vitamins.
