

Subject Code: B133202/R13**III B. Pharmacy II Semester Supplementary Examinations Nov. - 2016****PHARMACEUTICAL BIOTECHNOLOGY****Time: 3 hours****Max. Marks: 70**

Question Paper Consists of **Part-A** and **Part-B**
Answering the question in **Part-A** is Compulsory,
Three Questions should be answered from **Part-B**

PART-A

1. (a) What is R-DNA technology?
- (b) Explain the collection of blood from humans.
- (c) What are the antigen-antibody reactions?
- (d) Explain immobilization of bacteria.
- (e) What is fermentation? Classify it.
- (f) What is the source of microorganisms used for the production of Lysin, Lactic acid, Riboflavin by fermentation?

[3+3+4+4+4+4]

PART-B

2. (a) What is hypersensitivity? Explain the types of hypersensitivity reactions.
- (b) Explain the preparation of any one living bacterial suspension type vaccine. [12+4]
3. (a) Mention the applications of bioinformatics.
- (b) Explain the processing and storage of whole human blood and human normal immunoglobulin injection. [6+10]
4. (a) Explain the optimization of fermentation process.
- (b) Explain the principle involving in downstream process and effluent treatment. [8+8]
5. (a) Explain the production of Humulin and Humatrop by genetic engineering.
- (b) Explain the production of monoclonal antibodies by hybridoma technique. [10+6]
6. (a) What is enzyme immobilization? Explain the methods of enzyme immobilization.
- (b) Explain the profile of Streptokinase. [12+4]
7. Explain the fermentation and purification of the following.
(i) Alcohol (ii) Acetone (iii) Streptomycin (iv) Riboflavin [4+4+4+4]
