## M.PHARM. DEGREE EXAMS FIRST YEAR

## BRANCH VI – PHARMACEUTICAL BIOTECHNOLOGY PAPER IV – ADVANCES IN PHARMACEUTICAL BIOTECHNOLOGY

O.P. Code: 262919

Time: 3 hours Maximum: 100 marks

I. Elaborate on : (2x20=40)

- 1. Elaborate the steps involved in the preparation of recombinant DNA products such as interferon and insulin.
- 2. How the enzymes are commercially produced? What are the advantages of microbial enzymes over other enzymes. Mention the applications of enzymes and write on the production of glucose isomerase.

II. Write notes on: (10x6=60)

- 1. Gene cloning strategies
- 2. Gene therapy
- 3. Hepatitis- B vaccine
- 4. Chromosomal abnormalities and their syndromes
- 5. Techniques of immobilisation of enzymes
- 6. Biodegradation of chemical and industrial wastes
- 7. Hybridoma technology
- 8. Network access
- 9. Chi-square test and Null hypothesis
- 10. Biotransformation of synthesis of chiral drugs

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