

**PARUL UNIVERSITY**  
**FACULTY OF PHARMACY**  
**B.Pharm., Winter 2017-18 Examination**

**Semester: 5****Subject Code: 08101303****Subject Name: Pharmaceutical Biotechnology****Date: 15/12/2017****Time: 10:00 am to 1:00 pm****Total Marks: 75****Instructions:**

1. Figures to the right indicate full marks.
2. Make suitable assumptions wherever necessary.

**Q.1 Essay type Questions. (Any 2 out of 3) (10 marks each) (20)**

1. Describe the production and recovery of Streptomycin by fermentation process.
2. Describe the steps for production of Monoclonal Antibodies (MAbs) by Hybridoma Technology. Give its applications in Pharmaceutical field.
3. Give the cloning strategy, vector, host system and screening method for the production of human growth hormone.

**Q.2 Short Essay type Questions. (Any 7 out of 9) (5 marks each) (35)**

1. Discuss Microbial Transformation of steroids.
2. Give the difference between biotechnological derived drugs and conventional drugs.
3. Explain application of Plant tissue culture in pharmaceutical field,
4. Discuss F. Griffith experiment to prove transformation as a method of genetic recombination.
5. Discuss Humoral Immunity.
6. Define Epitope, Antigen, Antibody, Hypersensitivity and Active Immunity
7. Define Mutation and explain types of mutation.
8. What are different methods for enzyme immobilization. Explain.
9. Define Transgenic plants and give its applications.

**Q.3 Answer in short. (2 marks each) (20)**

1. Enlist different genetic recombination technique in bacteria with diagram.
2. Draw well labelled diagram of aerobic batch fermentor.
3. Give difference between active and passive immunity.
4. Give difference between chemostat and turbidostat.
5. Write a short note on restriction enzymes.
6. Discuss different types of vectors used in recombinant DNA technology.
7. Write note on Hyaluronidase.
8. Write a note on cryopreservation.
9. Discuss standardization and storage of vaccines.
10. Enlist factors affecting fermentation process.