

GUJARAT TECHNOLOGICAL UNIVERSITY
B.PHARM - SEMESTER- 8- EXAMINATION – SUMMER -2019

Subject Code:2280015**Date: 18-05-2019****Subject Name: GENETIC ENGINEERING AND GENE THERAPY****Time: 10:30 AM TO 01:30 PM****Total Marks: 80****Instructions:**

1. Attempt any five questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) What do you mean by Gene cloning? Explain the steps involved with clean and labelled diagram. **06**
- (b) Explain the process of Transcription in detail with clean and labelled diagram. **05**
- (c) Write a note on applications of rDNA technology. **05**
- Q.2** (a) Explain the methods used for isolation of DNA with suitable diagram. **06**
- (b) Write a note on restriction enzymes their types. **05**
- (c) Discuss on DNA delivery methods. **05**
- Q.3** (a) What is PCR? Explain the cycle and write the applications in detail. **06**
- (b) What is HUMULIN? How it is produced using rDNA technology. **05**
- (c) Discuss DNA vaccine in detail. **05**
- Q.4** (a) What are monoclonal Antibodies? How they are produced? Write the applications of Monoclonal Antibodies. **06**
- (b) Discuss Transgenic plants in detail. Write the applications of Transgenic plants. **05**
- (c) what do you mean by Gene therapy? Explain the types with suitable examples. **05**
- Q.5** (a) Write a note on DNA sequencing methods. Explain the Maxam Gilbert methods for DNA sequencing with suitable diagram. **06**
- (b) Explain in detail about Transgenic animals. Write their applications. **05**
- (c) What do you mean by cDNA? How it is synthesized? **05**
- Q. 6** (a) What are vectors? Write their characteristics. Explain about PBR322 in detail. **06**
- (b) What are blotting techniques? Explain Southern blotting in detail with suitable diagram. **05**
- (c) Explain about bacteriophage with labelled diagram. **05**
- Q.7** (a) Explain the applications of Gene therapy in hematopoietic disorders. **06**
- (b) What do you mean by RNA? Explain the types with their functions. **05**
- (c) Write a note on Anti sense therapy with suitable diagram. **05**
