

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.

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|-------------|-----|---|-----------|
| 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 |
