

GUJARAT TECHNOLOGICAL UNIVERSITY
B.PHARM – SEMESTER – 8- EXAMINATION –WINTER - 2018

Subject Code: 2280015

Date: 28/11/2018

Subject Name: Genetic engineering and gene therapy

Time: 02:30 PM TO 05:30 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) | Explain Gene Cloning with neat and labelled diagram. | 06 |
| | (b) | Write a note on applications of genetic engineering. | 05 |
| | (c) | What is central dogma of life? Explain the process of translation with diagram. | 05 |
| Q.2 | (a) | What are vectors in genetic engineering? Enumerate the types of vectors. Explain plasmid PBR322 as a vector in detail with diagram. | 06 |
| | (b) | What is RNA? Write a note on types of RNAs. | 05 |
| | (c) | What is PCR explain the cycle and write applications of PCR. | 05 |
| Q.3 | (a) | What do you mean by Antisense oligo nucleotide therapy? | 06 |
| | (b) | What are monoclonal antibodies? How they are produced? Write the applications of Monoclonal Anti bodies. | 05 |
| | (c) | What is blotting? Explain southern blotting with suitable diagram. | 05 |
| Q.4 | (a) | What are transgenic plants? How they are produces? Write the applications of transgenic plants. | 06 |
| | (b) | What is Humulin? Explain the production using recombinant DNA technology. | 05 |
| | (c) | What do you mean by gene therapy? Explain the types with suitable example. | 05 |
| Q.5 | (a) | Explain DNA delivery methods in detail. | 06 |
| | (b) | Write a note on Quantification of Nucleic acids. | 05 |
| | (c) | Explain in detail about transgenic animals. | 05 |
| Q. 6 | (a) | Write in detail about DNA sequencing techniques. Explain any one technique using suitable diagram. | 06 |
| | (b) | Write a note on transformation with diagram. | 05 |
| | (c) | Explain about DNA vaccine in detail. | 05 |
| Q.7 | (a) | Explain the application of gene therapy in Hematopoietic disorders. | 06 |
| | (b) | What are restriction enzymes? Explain the types and applications in detail. | 05 |
| | (c) | Explain about bacteriophage with suitable diagram. | 05 |
