

Sr. No. of Question Paper : 5957 ~~2234~~ **Roll No.....**
Unique Paper Code : - 2234 000007
Name of the Paper : GE 11: Animal Cell Biotechnology
Name of the Course : B.Sc. /B.Com. /B.A.
Semester : Semester IV, (NEP-UGCF)
Duration : 2 Hours **Maximum Marks: 60**

Instruction for Candidates

1. Write your Roll No. on the top immediately on the receipt of this question paper.
2. Attempt **four questions** in all, including Question No 1 which is compulsory.
3. Illustrate your answers with appropriate diagrams whenever necessary.

1. (a) Define the following : (5)

- i. Shuttle Vectors
- ii. Transgenesis
- iii. Biological containment
- iv. cDNA library
- v. Insertional inactivation

(b). Differentiate between **any three** of the following: (2X3)

- i. Continuous and Fed batch Fermentation
- ii. Dolly and Polly
- iii. Calcium chloride and Electroporation method of transformation
- iv. Gel filtration and Ion exchange chromatography

(c). Expand the following: (4)

- i. CFU
- ii. VNTR
- iii. MCS
- iv. SCID

- 2 (a) Describe important features of cloning vector. Explain any two types of cloning vectors used in recombinant technology. (10)
- (b) Write an account of DNA modification enzymes used in genetic manipulation. (5)
- 3 (a) Describe the strategy used to produce recombinant human insulin. (8)
- (b) Describe the principle of affinity chromatography. (7)
- 4 (a) Describe the procedure for creating and screening Genomic DNA Library. (8)
- (b) With suitable explain gene therapy and its types. (7)
- 5 Define transgenic animals. Describe any one method of their production. Add a note on their potential applications in human welfare. (15)
- 6 Write short notes on **Any Three** of the following:
- i. Recombinant DNA technology
 - ii. Downstream processing
 - iii. Somatic Cell Nuclear transfer
 - iv. Recombinant vaccines (5,5,5)