

Exam. Code : 107406

Subject Code : 2272

B.Sc. Bio-Technology Semester—VI

ANIMAL BIOTECHNOLOGY

Paper—BT-3

Time Allowed—3 Hours] [Maximum Marks—40

Note : Section A is compulsory. Section B attempt any 5 questions. The answer should not exceed **two** pages. Section C attempt any 2 questions. The answer should not exceed **Five** pages.

SECTION—A (Compulsory)

Write a brief account of the following.

1. Give the origin and characteristic features of WI-38, MRC-5
2. HeLa cell line application
3. Vector
4. Transgenic animals
5. Microcarriers and their materials
6. Bioreactor
7. Superovulation
8. Any transgenic mice. $1 \times 8 = 8$

SECTION—B

1. Define cell line and continuous cell line and explain with the example of CHO KI and B 16 cell line.

2. How organ culture differs from cell culture. How to do organ culture ?
3. Describe the need of expression of proteins in the animal cells.
4. What are promoters ?
5. Write an account of cell fusion methods for the production of monoclonal antibodies and also the method to validate the fused desired product.
6. Which methods are adopted for scaling up of anchorage dependent cells ?
7. Write a note on production of a genetically engineered blood product in animal cell culture.
8. Give the methodology of animal cloning and its application. $5 \times 4 = 20$

SECTION—C

1. While describing the terms differentiation, dedifferentiation and redifferentiation with example give the methods of inducing differentiation.
2. Enlist various methods of transfection and describe any two in detail.
3. Give the characteristic features of stem cells and their application in therapy.
4. Write notes on any two :
(1) Production of hormones by genetic engineering,
(2) Embryo transfer technology, (3) Role of transgenic animal production in improvement of cattle breed.

$6 \times 2 = 12$