



B.Sc. V Semester Degree Examination, Sept./Oct. - 2024

BIOTECHNOLOGY

DSC 6 : Bt : 5.2 - Animal Biotechnology

(NEP)

Time : 2 Hours

Maximum Marks : 60

- Note :** (i) Answer **all** sections.
(ii) Draw labelled diagrams wherever necessary.

SECTION - A

1. Answer the following sub-questions. **10x1=10**
- (a) Define Multipotency.
 - (b) What is Animal Biotechnology ?
 - (c) What is Organ Culture ?
 - (d) Define Biotransformation.
 - (e) Name a common species where artificial insemination is widely practiced.
 - (f) What is Reproduction ?
 - (g) Define Gene Constructs.
 - (h) List two advantages of using viral vectors in gene transfer.
 - (i) Expand CRISPR.
 - (j) What is microinjection in transgenesis ?

SECTION - B

Answer **any four** of the following questions.

4x5=20

- 2. Define pluripotency and explain its significance in stem cell biology.
- 3. Explain the technique of organ culture and its applications.
- 4. Explain the process of artificial insemination.
- 5. Describe the process of lipofection and its application in gene transfer to animal cells.
- 6. Investigate the latest advancements in transgenesis and their applications in various fields.
- 7. Explain the process of somatic cell hybridization and its uses.



SECTION - C

Answer **any three** of the following.

3x10=30

8. Explain the importance of germplasm conservation and the establishment of gene banks in preserving genetic diversity.
9. Discuss the potential uses of stem cells in regenerative medicine.
10. Explore the role of somatic cell cloning in advancing medical research and biotechnology.
11. Provide examples of successful applications of transgenic animals in addressing real world challenges.
12. Explore the future prospects and advancements in vectors for gene transfer in animals.

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