



B.Sc. V Semester Degree Examination, April/May - 2024

BIOTECHNOLOGY

Bt : 5.1 Plant Biotechnology

(NEP)

Time : 2 Hours

Maximum Marks : 60

Note : (i) Answer **all** Sections.

(ii) Draw the labelled diagrams wherever necessary.

SECTION - A

1. Answer the following sub-questions in **one word** or **one sentence** each. **10x1=10**
- (a) Define Acclimatization.
 - (b) What is Callus ?
 - (c) What do you mean by Elicitors ?
 - (d) What are Terpenoids ?
 - (e) Define Electroporation.
 - (f) Define Enhancers.
 - (g) Name any two key elements of transgene regulatory sequences.
 - (h) Mention any two famous transgenic crops.
 - (i) What is biosafety ?
 - (j) Expand CRISPR.

SECTION - B

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

4x5=20

- 2. Describe the commercial micropropagation of Banana.
- 3. Give an account of the concept of elicitation and its impact on secondary metabolites.
- 4. Explain the benefits of controversies in associated with transgenic plants.
- 5. Explore how genetic engineering enhances pest resistance in transgenic crops.
- 6. Write a short notes on Intellectual Property Rights.
- 7. Discuss the role of risk assessment in determining the safety of transgenic plants for human consumption.



SECTION - C

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

3x10=30

8. Give the detail account of case studies of Shikonin.
9. Analyze the challenges and limitations faced in the field of transgenic plant research.
10. Define Genetic Engineering. Describe the process of Agrobacterium mediated gene transfer in plants.
11. Discuss the potential benefits and risks of using CRISPR-Cas 9 in precision breeding of crops.
12. Write a short note of the following :
 - (a) Anther culture.
 - (b) Application of tissue culture in Horticulture.

- o 0 o -

