

A (Printed Pages 4)
(20622) Roll No.
M.Sc. - II Sem.

NP-3336

M.Sc. (Bio-Tech.) Examination, June-2022
BIOTECHNOLOGY IN CROP IMPROVEMENT
(H-203)

(M.Sc. Biotech.)

Time : Three Hours] [Maximum Marks : 50

Note : Attempt questions from all the
Sections as per instructions.

Section-A

(Very Short Answer Type Questions)

Note : Attempt all the five questions of
this section. Each question carries 2
marks. **Very** short answer is required
not exceeding 75 words.

1. Explain gene tagging
2. Write a short note on transgene silencing.

3. Explain In-vitro pollination.
4. Write detailed note on Petro plants.
5. Write a note on Legislation for transgenic plants.

Section-B

(Short Answer Type Questions)

Note : Attempt any **two** questions out of
the following three questions. Each
question carries **5** marks. Short
answer is required not exceeding
200 words.

6. What are the methodologies for identifying transgenic plants?
7. Discuss in brief PEG mediated somatic hybridization.
8. Differentiate between Clonal propagation and micro propagation.

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Section-C

(Long Answer Type Questions)

Note : Attempt any **three** questions out of the following five questions. Each question carries **10** marks. Answer is required in detail.

9. What is genetic engineering? Explain Agrobacterium mediated gene transfer with the help of a diagram. How many type of differentiations can be induced through Agrobacterium? Describe briefly any other two methods of direct delivery of gene transfer.
10. Elaborate the significance and application of micropropagation techniques in the forestry and horticulture.
11. Describe different methods used for improvement of nutritional quality of crop

plants. Explain with particular emphasis on transgenic crops with improvement in vitamins and seed storage proteins.

12. What are symmetric and asymmetric somatic hybrids. How can these be used for transfer of genes from alien species into cultivated species?
13. Write short notes on any **two** of the following: <https://www.validcollege.com>
 - (a) Discuss the utility of transgenic plants for production of antibiotics and biopharmaceuticals using suitable examples.
 - (b) Biosafety for growing transgenic crops.
 - (c) Regulations on field testing of transgenic crops
 - (d) Anther culture and its use in hybridization programmes.