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R-3927-28

M. Sc. (Sem. VIII) (Biotechnology) (Reg.) Examination

May / June – 2010

IBT-803 : Agriculture Biotechnology

Time : **3** Hours] [Total Marks : **70**

R-3927

Instructions :

(1)

નીચે દર્શાવેલ ☛ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fillup strictly the details of ☛ signs on your answer book.

Name of the Examination :

☛ **M. Sc. (Sem. 8) (Biotechnology)**

Name of the Subject :

☛ **IBT-803 : Agriculture Biotechnology**

☛ Subject Code No. : **3 9 2 7** ☛ Section No. (1, 2,.....) : **1**

Seat No. :

Student's Signature

(2) Figures to the right indicate full marks of the question.

(3) Draw neat and labelled diagrams whenever necessary.

(4) Both sections must be written in **separate** answer books.

1 Give a detailed description of the process of protoplast fusion. **10**

OR

1 Explain the following : **10**

(a) Vectors

(b) Variation and mutation

2 Discuss the origin of somaclonal variation. What are different methods for isolating somaclonal variants? **10**

OR

2 Differentiate : **10**

(a) Hybrid and Cybrid

(b) Plasmid and Cosmid

3 Discuss the advantages and disadvantages of various gene transfer technology. **10**

OR

3 Explain : **10**

(a) Importance of transgenic forms

(b) Advantages of somatic hybridization

4 Write a brief note on (any **one**) **5**

(a) *Agrobacterium tumefaciens* as a remarkable vector.

(b) Confirmation of transgenic forms.

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Name of the Examination :

☛ **M. Sc. (Sem. 8) (Biotechnology)**

Name of the Subject :

☛ **IBT-803 : Agriculture Biotechnology**

☛ Subject Code No. : **3 9 2 8** ☛ Section No. (1, 2,.....) : **2**

Seat No. :

Student's Signature

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(4) Both sections must be written in **separate** answer books.

5 Define molecular markers. Explain their role in plant breeding. **10**

OR

5 Explain the following : **10**

(a) The role of transgenic plant in phytopharmaceuticals.

(b) Importance of resistance in plants.

6 What is secondary metabolite? Write in details about the production of pharmaceutical proteins by molecular farming. **10**

OR

6 Discuss : **10**

(a) The risk and environmental issues related with GMOs.

(b) The role of culture filtrates for fungal resistance.

7 What are RAPD and AFLP? Discuss them in detail with advantages and disadvantages with their applications. **10**

OR

7 Discuss : **10**

(a) Advantages and disadvantages of Bt cotton and Bt brinjal.

(b) Disease free and disease resistance plants and their importance.

8 Write a short note on : (any **one**) **5**

(a) Methods for generating herbicide resistance

(b) Vaccine and edible vaccine

(c) Bacterial and viral resistant plants.