

B.Sc. (CBCS Pattern) Semester-VI
012F - Botany Paper-II - Plant Biotechnology-II

P. Pages : 2

Time : Three Hours



GUG/S/25/13332

Max. Marks : 50

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- Notes : 1. All questions are compulsory and carry equal marks.
2. Draw well labeled diagram wherever necessary.

1. Write notes on **5x2**
=10

- a) What are transgenic crops? Write about the steps involved in their production.
- b) Write in detail about achievements of transgenic crop production.

OR

Write short note on **2½x4**
=10

- c) Particle bombardment technique.
- d) Electroporation technique.
- e) Define microinjection and write its advantages.
- f) Silicon carbide fibre mediated transformation.

2. Write notes on **5x2**
=10

- a) What is indirect method of gene transfer? Write the outline of Agrobacterium-mediated gene transfer technique.
- b) Organization of Ti plasmid of Agrobacterium.

OR

Write short note on **2½x4**
=10

- c) Antibiotic resistance gene markers.
- d) Gus gene
- e) Binary vector
- f) Luciferase gene

3. Write notes on **5x2**
=10

- a) Production of Bt cotton.
- b) Production of Moondust carnations.

OR

Write short note on

**2½x4
=10**

- c) Transgenic crops with improved quality traits.
- d) Herbicide resistance.
- e) Advantages and problems associated with Bt cotton.
- f) Improved floricultural varieties.

4. Write notes on

**5x2
=10**

- a) Define edible vaccine and write note on their production.
- b) Chloroplast transformation.

OR

Write short note on

**2½x4
=10**

- c) Biosafety concerns.
- d) PHB
- e) Advantages of edible vaccines.
- f) Bioethics biotechnology

5. Write very short answer on (Diagrams are NOT necessary) **any ten.**

**1x10
=10**

- | | |
|-------------------|------------------------------|
| a) Transgene | b) Recombinant DNA |
| c) Electroporator | d) Vir region |
| e) gfp gene | f) bxn gene |
| g) cry genes | h) Glyphosate |
| i) Golden rice | j) pha genes |
| k) Super weed | l) Horizontal gene transfer. |
