

PSCBOTT15.2 - Paper-XVI : Molecular Biology and Plant Biotechnology-II

P. Pages : 1

Time : Three Hours



GUG/W/23/11359

Max. Marks : 80

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

1. Briefly describe the organisation of Ti plasmid with special reference to its T-DNA and Vir genes. Explain the mechanism of T-DNA transfer. **16**

OR

Write notes on:

- a) Chloroplast transformation. **8**
b) Particle bombardment & Electroporation. **8**

2. Briefly describe the strategy for Insect-resistant transgenic plants. Describe its applications & demerits. **16**

OR

Write notes on:

- a) Biodegradable plastics. **8**
b) Production of secondary metabolites. **8**

3. Briefly describe the modes of production of Haploid plants. Discuss advantages and limitations of haploid plants. **16**

OR

Write notes on:

- a) Gene expression in chloroplast. **8**
b) Post translational modification. **8**

4. What are molecular markers? Briefly describe RFLP & RAPD markers along with its advantages and limitations. **16**

OR

Write notes on:

- a) SSCP. **8**
b) Hup genes. **8**

5. Write short notes on:
a) Microinjection. **4**
b) Edible Vaccines. **4**
c) Somatic hybrids. **4**
d) QTL mapping in maize. **4**
