

M.Sc. (Botany) (C.B.C.S. Pattern) Sem-IV
PSCBOTT15.2 - Paper-XV
Molecular Biology and Plant Biotechnology-II

P. Pages : 1

Time : Three Hours



GUG/W/19/11359

Max. Marks : 80

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- Notes : 1. All questions are compulsory and carry equal marks.
2. Illustrate your answers with suitable diagram and example wherever necessary.

1. What are cloning vectors ? Write about methods for gene transfer. **16**

OR

Write on :

- a) Agrobacterium tumefaciens. **8**
b) Features of Ti and Ri plasmids. **8**

2. Write in detail about biopesticides and biofertilizers. **16**

OR

Write on :

- a) Industrial enzymes. **8**
b) Antibody production. **8**

3. What is culture ? Write about different types of culture. **16**

OR

Write on :

- a) Gene expression in Mitochondria. **8**
b) Protoplast culture. **8**

4. What are Nitrogen fixing genes ? Write about function and regulation of nitrogen fixing genes in Klebsiella. **16**

OR

Write on :

- a) Pollution control through genetically modified organisms. **8**
b) SCAR. **8**

5. Write short notes on :

- a) PEG method. **4**
b) Hazards and safety regulations for transgenic plant. **4**
c) Organogenesis. **4**
d) Linkage analysis. **4**
