

M.Sc. (Biotechnology) (CBCS Pattern) Sem-III  
**PSBIT110 - Plant Biotechnology Paper-II**

P. Pages : 1

Time : Three Hours



**GUG/W/22/11237**

Max. Marks : 80

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Note : 1. All questions are compulsory and carry equal marks.

1. Discuss in detail initiation and maintenance of suspension cultures. **16**

**OR**

Write notes on:

a) Role of auxin as a plant growth hormone. **8**

b) Composition and preparation of tissue culture media. **8**

2. Describe in detail protoplast isolation, culture and fusion for the production of hybrid plants. **16**

**OR**

Describe in detail anther and pollen cultures for the production of hybrid plants.

3. Describe in detail chloroplast transformation. **16**

**OR**

a) Discuss biological methods of nuclear transformation. **8**

b) Give an account on binary vectors used to produce genetically modified plants. **8**

4. Describe in detail about Bt genes which provide insect resistance. **16**

**OR**

Add a note on:

a) Cytoplasmic Male sterility. **8**

b) Transgenic plants as a food. **8**

5. Write short notes on:

a) Single cell clones. **4**

b) Embryo rescue. **4**

c) Hairy root. **4**

d) Plant transformation for productivity. **4**

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