

M.Sc.(Biotechnology) (CBCS Pattern) Semester-III
PSBIT110 - Paper-II: Plant Biotechnology

P. Pages : 1

Time : Three Hours



GUG/W/24/11237

Max. Marks : 80

Note : 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

- a) Describe in detail anther and pollen cultures for the production of hybrid plants. **8**
- b) Write on embryo culture. **8**

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**
