

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

P. Pages : 1

Time : Three Hours



GUG/W/23/11237

Max. Marks : 80

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

1. What is conventional plant breeding? Describe in brief? **16**
- OR**
- i) Discuss in detail tissue culture technique? **8**
- ii) Explain the role of auxin growth hormone in plant tissue culture? **8**
2. What is organogenesis and embryogenesis? Discuss in brief transfer and establishment of whole plants in soil? **16**
- OR**
- i) Give the account of shoot tip culture? **8**
- ii) Discuss in detail hybrid plants by protoplast isolation? **8**
3. Describe in details mechanism of DNA transfer by using Ti and Ri as vectors? **16**
- OR**
- i) Discuss methods of biological nuclear transformation? **8**
- ii) Discuss in detail chloroplast transformation? **8**
4. Describe in detail insect resistance- Bt genes? **16**
- OR**
- i) Explain coat protein mediated nucleocapsid gene? **8**
- ii) Describe transgenic plants as a food with golden rice? **8**
5. Write in short – all compulsory?
- i) Explain single cell clones? **4**
- ii) Discuss in detail embryo culture? **4**
- iii) Explain in detail hairy root? **4**
- iv) Describe male sterile lines? **4**
