

B.Sc. (CBCS Pattern) Semester - V
011B : Biotechnology Paper-II (Plant Biotechnology)

P. Pages : 2

Time : Three Hours



GUG/S/23/13127

Max. Marks : 50

1. Explain in detail role of auxins as a growth hormone in plant tissue culture? **10**

OR

i) Discuss in detail tissue culture technique? **2½**

ii) Describe in detail callus initiation and maintenance? **2½**

iii) Role of cytokinin's **2½**

iv) Discuss in detail plant tissue culture media? **2½**

2. Explain in detail embryo culture and embryo rescue? **10**

OR

i) Discuss organogenesis? **2½**

ii) Discuss protoplast fusion? **2½**

iii) Describe production of haploid plants? **2½**

iv) Discuss short tip culture? **2½**

3. Explain in detail mechanism of DNA transfer and use of Ti as a vectors? **10**

OR

i) Discuss role of virulence gene? **2½**

ii) Describe tumor formation? **2½**

iii) Discuss methods of nuclear transformation? **2½**

iv) Discuss chloroplast transformation? **2½**

4. Explain in detail Bt. Genes and its application? **10**

OR

i) Discuss Sulfonylurea as herbicide resistance? **2½**

ii) Discuss coat protein mediated nucleocapsid gene? **2½**

iii) Discuss male sterile lines? 2½

iv) Discuss Application of nematode resistance? 2½

5. Write in very short.

a) What is tissue culture? 1

b) Culture media? 1

c) What is single cell clone? 1

d) What is cybrid? 1

e) Embryogenesis? 1

f) What is anther? 1

g) Ri plasmid? 1

h) Role of hairy root? 1

i) Role of Ti plasmid? 1

j) What is Herbicide? 1

k) Role of nucleocapsid gene? 1

l) Bt Gene? 1
