

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

P. Pages : 2

Time : Three Hours



GUG/W/22/13127

Max. Marks : 50

1. Discuss in detail about the role of growth hormones in plant tissue culture. **10**

OR

- a) Give brief account on history of tissue culture technique. **2½**
- b) Write a short note on plant tissue culture media and its basic components. **2½**
- c) Discuss in brief about callus culture. **2½**
- d) Describe about single cell clones. **2½**

2. Give detail account on Organogenesis. **10**

OR

- a) What is embryo culture? **2½**
- b) Write a note on protoplast isolation. **2½**
- c) Give an account on cybrid. **2½**
- d) Discuss about pollen culture. **2½**

3. Discuss in details biological and physical transformation method of gene transfer in plant. **10**

OR

- a) Write a note on mechanism tumor formation in plants in brief. **2½**
- b) Give the general features of Ti plasmid. **2½**
- c) Give brief account on nuclear transformation. **2½**
- d) Discuss in brief about chloroplast transformation. **2½**

4. Give detail account on herbicide resistance. **10**

OR

- a) Write a note on insect resistance with example. **2½**
- b) Give the information about virus resistance. **2½**
- c) Discuss about nematode resistance. **2½**
- d) Write a note on male sterile lines. **2½**

5. Solve **any ten** of the following.

- a) Define tissue culture. 1
- b) Enlist two example of growth hormones 1
- c) What is suspension culture? 1
- d) Define Embryogenesis 1
- e) What is haploid plant? 1
- f) Define embryo culture. 1
- g) What is hairy root structure in plant. 1
- h) Define Ri vector. 1
- i) Give the examples of physical transformation methods. 1
- j) Term Bt. stands for? 1
- k) What is fungal resistance? 1
- l) What are the methods for increasing shelf life of fruits and flowers. 1
