(B) Give two utility of chloroplast transformation. **2**

(C) List four characteristics of Agro-bacterium. **4**

Or

Explain Gene Gun.

(D) Give a detail account on vector mediated gene transfer. **12**

Or

Explain any one technique uses for the molecular mapping of plant genome.

Roll No. ..... **Total No. of Sections : 4**

Total No. of Printed Pages : 4

Code No. : B03/304

III Semester Examination

M.Sc.

BOTANY

Paper III

[Biotechnology and Genetic Engineering of Plants]

Time : Three Hours] [Maximum Marks : 80

[Min. Passing Marks : 16

Note : *Part A and B of each question in each unit consists of Very Short Answer Type Questions which are to be answered in one or two sentences. Part C (Short Answer Type) of each question will be answered 200-250 words. Part D (Long Answer Type) of each question should be answered within the word limit 400-450.*

Unit–I

1. (A) Give two hormone name uses in plant tissue culture media. **2**

(B) Wiat is Biotechnology ? **2**

(C) List some criteria for selection of culture media. **4**

Or

List the scope of Biotechnology in Agriculture.

(D) What is cellular differentiation ? Explain with suitable diagram. **12**

Or

List the applications of cell culture in various field.

Unit–II

2. (A) Give two examples of plant secondary metabolites. **2**

(B) Give two example of Tiger reserve situated in Chattisgarh State. **2**

(C) What is somaclonal variations ? **4**

Or

Give a short note on in-situ conservation in National Park.

(D) Explain the technique of Micropropagation. **12**

Or

Explain the Role of Department of Biotchnology (DBT) in plant conservation.

Unit–III

3. (A) Give two characteristics of callus. **2**

(B) Give two limitations of somatic hybridization. **2**

(C) List the characteristics of zygotic embryo. **4**

Or

Describe the methods of Protoplast Isolation.

(D) Give a detail account on somatic embryogenesis. **12**

Or

Explain the technique of identification and selection of hybrid cell.

Unit–IV

4. (A) Give two aims for performing Genetic engineering. **2**