Reg. No. | | | | | | | | | |

BSCBOC 382

Choice Based Credit System Sixth Semester B.Sc. Examination, September 2022
(2021-22 Batch Onwards)
BOTANY
Plant Propagation and Biotechnology

Time : 3 Hours Max. Marks : 80

***Instructions** : 1) Answer Part – **A** and Part – **B**.*

*2) Answer **four full** questions from Part – **B** choosing **one full** question from **each** Unit.*

*3) **All** questions in Part – **B** carry **equal** marks.*

*4) **Draw** diagrams **wherever** necessary.*

PART – A

1. Answer **any ten** of the following : **(2×10=20)**

i) Define polyploidy breeding. Write any one significance of it.

ii) Write any two objectives of plant breeding.

iii) Name two plants propagated through root cutting.

iv) Define cellular totipotency.

v) What is pollen culture ?

vi) Name and mention the role of the two important growth hormones used in plant tissue culture.

vii) What is meant by recombinant DNA technology ?

viii) Write any two applications of transgenic plants.

ix) What is pBR 322 ?

x) Name any four types of biofertilizers.

xi) Define bioremediation.

xii) What are biofuels ?

PART – B

Unit – I

2. a) Explain air layering with an example. **4**

b) Write briefly on mutation breeding. **4**

c) Define hybridization. Name the types. Describe any one type of hybridization in plant breeding. **7**

OR

3. a) Define male sterility. Name the types. **3**

b) Explain approach and crown grafting. **5**

c) Describe any two methods of selection in plant breeding. **7**

Unit – II

4. a) Explain embryo culture. **4**

b) Write notes on applications of tissue culture in agriculture with examples. **4**

c) Explain in detail the method of preparation of any one tissue culture medium you have studied. **7**

OR

5. a) Write a note on synthetic seeds. **3**

b) Outline the methods of sterilization in tissue culture. **5**

c) Explain the techniques of somatic hybridization. **7**

Unit – III

6. a) Write brief notes on restriction endonucleases. **4**
   b) Explain electroporation technique of gene transfer. **4**
   c) Give an account of applications and threats from transgenic plants. **7**

OR

7. a) Give the difference between cloning and expression vectors. **3**
   b) Explain the steps involved in the production of Bt cotton. **5**
   c) Give an account of tools used in genetic engineering. **7**

Unit – IV

8. a) Describe production and application of biogas. **4**
   b) Write briefly on biomining. **4**
   c) Describe anaerobic waste water treatment with examples. **7**

OR

9. a) Write short note on biofilters. **3**
   b) Give an account of biodegradable plastics. **5**
   c) What are biopesticides ? Describe their types and applications. **7**
