Printed Pages: 01 **Sub Code: EBT012**

Paper Id: 154212 **Roll No.** | | | | | | | | | | |

B TECH

(SEM-VI) THEORY EXAMINATION 2018-19

PLANT BIOTECHNOLOGY

Time: 3 hours Maximum marks: *100*

Note: Attempt all Sections. If require any missing data; then choose suitably.

SECTION- A

1. Attempt all parts. All parts carry equal marks. (2x10=20)

a) Define Acclimatization.
b) Give two differences between somatic embryogenesis and Organogenesis.
c) What makes DMSO a significant cryopreservant?
d) Define dedifferentiation?
e) What is the role of gibberellins in the growth of plant?
f) Write any two secondary metabolites formed during plant tissue culture alongwith their uses?
g) List the physical factors affecting callus culture.
h) Name any two auxins used for the growth of plant cells.
i) Define Cybrid.
j) What are the limitations of transgenic plants?

SECTION- B

2. Attempt any three questions from this section. (10x3=30)

a) Give the major nutritional requirements of plant tissue culture.
b) Describe the term somatic hybridization. How protoplast is isolated and cultured for somatic hybridization? Discuss.
c) Write down the technique of cryopreservation with various freezing techniques. What is the applications cryopreservation in tissue culture?
d) What are phytohormones? Explain their role in the growth and development of plants.
e) What do you understand by the term micro propagation? Give the method of micropropagation by axillary bud? Give various uses of micro propagation.

SECTION – C

3. Attempt any one part: (10x1=10)

a) Plant tissue culture is applicable in transgenic plant production. Justify the statement.
b) What are the suitable constituents for the plant culture medium? Explain the role of every single constituent used in the medium.

4. Attempt any one part: (10x1=10)

a) Explain the process of androgenizes in detail. What are the applications of production of haploids?
b) Write a brief note on cellular differentiation and regulation of morphogenesis?

5. Attempt any one part: (10x1=10)

a) Give an account on the composition of a plant tissue culture medium.
b) Discuss the process of transformation with Ti-plasmid of *Agrobacterium tumifacianc*?

6. Attempt any one part. (10x1=10)

a) How plants are important as bioreactor in the production of antibodies and polymers?
b) Explain the various techniques used for the isolation of single cell clone.

7. Attempt any one part. (10x1=10)

a) What are somaclonal variations? How somaclonal variations are produced in culture conditions? Explain.
b) What are the applications of tissue culture for crop improvement in agriculture?