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GIET UNIVERSITY, GUNUPUR - 765022
M. Sc. (Third Semester) Regular Examinations, December - 2023
22PSPE304 - Plant Biotechnology
(Lifesciences)

Time: 3 hrs

Maximum: 70 Marks

(The figures in the right hand margin indicate marks.)

PART – A**(2 x 10 = 20 Marks)**Q.1. Answer *ALL* questions

	CO #	Blooms Level
a. What do you mean by plasticity of a cell?	CO1	K1
b. List some plant growth hormone and mention why they are used?	CO1	K1
c. Define micropropagation and give its two application.	CO2	K1
d. Differentiate between hybridization and cybridization.	CO2	K4
e. Why is plasmid used as vector for genetic transformation in plants?	CO3	K3
f. What is Agrobacterium? Why is it used to make transgenic plants?	CO3	K1
g. Mention the applications of plant transformation technology?	CO4	K2
h. What is an artificial seed? How are they used in plant culture technique?	CO2	K1
i. What is the importance of protoplast isolation and culture?	CO2	K1
j. Name some transgenic crops and mention how they are produced.	CO4	K2

PART – B**(10 x 5=50 Marks)**Answer *ANY FIVE* questions

	Marks	CO #	Blooms Level
2. a. Mention the application of plant tissue culture in various fields and explain how they are being used?	5	CO1	K2
b. Elucidate the concept of totipotency of a plant cell.	5	CO1	K2
3.a. What is an explant? How will you induce callus from it?	5	CO2	K3
b. Differentiate between organogenesis and somatic embryogenesis.	5	CO2	K4
4. Explain the procedure of isolation of protoplasts from the plant cells. What are the applications of protoplast culture?	7+3	CO2	K2
5. Write short note on Gene gun, Electroporation and Microinjection.	3+3+4	CO3	K2

6. a.	Discuss the advantages and disadvantages of genetically modified plants.	5	CO4	K4
b.	Explain the bioethical issues in relation to genetically modified plants.	5	CO4	K2
7.	Describe the process of preparing cell suspension. What are the benefits of using aqueous medium over solid medium?	7+3	CO2	K3
8. a.	What are plantibodies? Mention the advantages of using plantibodies.	5	CO4	K2
b.	Define biotransformation. What are the techniques of biotransformation?	5	CO4	K2