

BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(MID SEMESTER EXAMINATION)

CLASS: BTECH
BRANCH: BIOTECHNOLOGY

SEMESTER: VI
SESSION: SP/2024

SUBJECT: BE403 PLANT & AGRICULTURAL BIOTECHNOLOGY

TIME: 2 HOURS

FULL MARKS: 25

INSTRUCTIONS:

1. The total marks of the questions are 25.
 2. Candidates attempt for all 25 marks.
 3. Before attempting the question paper, be sure that you have got the correct question paper.
 4. The missing data, if any, may be assumed suitably.
 5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.
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			CO	BL
Q1	(a) List various types of sterilization techniques used in sterilizing culture media, instruments, glasswares.	[2]	1	1
Q1	(b) What are the different types of plant growth regulators? Compare the role of Auxins with Cytokinin giving one example of each.	[3]	2	4
Q2	(a) Show diagrammatically the growth curve of plant cell suspension culture, highlighting the stage of plant secondary metabolites production. Justify.	[2]	2	6
Q2	(b) Analyse the difference between <i>in situ</i> and <i>ex situ</i> conservation.	[3]	3	4
Q3	(a) Define Cellular totipotency. Is Somatic Embryo totipotent? Explain.	[2]	3	2
Q3	(b) Compare Organogenesis with Embryogenesis.	[3]	2	4
Q4	(a) Repeated sub-culturing of callus tissue generates somaclonal variants. Is it advantageous? Justify.	[2]	2	5
Q4	(b) Describe the advantages of <i>in vitro</i> culture.	[3]	4	2
Q5	(a) Compare dedifferentiation with redifferentiation.	[2]	2	4
Q5	(b) What is Micropropagation? Discuss the stages of micropropagation.	[3]	3	2

:::22/02/2024:::M