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

CLASS: MSC **SEMESTER : II**
BRANCH: BIOTECHNOLOGY **SESSION : SP/2024**

SUBJECT: BT425 PLANT BIOTECHNOLOGY

TIME: 3 HOURS **FULL MARKS: 50**

INSTRUCTIONS:
1. The question paper contains 5 questions each of 10 marks and total 50 marks.
2. Attempt all questions.
3. The missing data, if any, may be assumed suitably.
***4*. Before attempting the question paper, be sure that you have got the correct question paper.**
5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.

			CO	BL
Q.1(a)	Design and Discuss the plant tissue culture laboratory.	[5]	1	6
Q.1(b)	In order to prepare the MS + BAP (3mg/l) 100 ml media, calculate the amount of IBA required if the given concentration of BAP is 0.1mg/ml.	[5]	4	3
Q.2(a)	Sketch out the strategy to get to produce haploid plants. Mention two of its significance.	[5]	4	3
Q.2(b)	A medicinal herb is producing the active metabolites in its leaves. Discuss the strategy for the production of metabolites.	[5]	3	2
Q.3(a)	Compare somatic hybrids with cybrids. Discuss any method for selection of somatic hybrids.	[5]	4	4
Q.3(b)	Elaborate the methods for induced fusion of protoplast.	[5]	1	2
Q.4(a)	Define molecular marker. Comment upon Marker assisted selection.	[5]	2	2
Q.4(b)	What do you understand by the term DNA Microarray? Explain.	[5]	1	2
Q.5(a)	Compare the nuclear transformation with plastid transformation.	[5]	4	4
Q.5(b)	Diagrammatically compare Binary and Co-integrate Vector. Why *Agrobacterium* is called as a poor man's vector?	[5]	3	3

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