MAHARASHTRA AGRICULTURAL UNIVERSITIES EXAMINATION BOARD, PUNE
SEMESTER END THEORY EXAMINATION

B.Sc.(Hons.) Horticulture

Semester	: III (New)	Term	: First	Academic Year	: 2022-23
Course No.	: H/BIOT 231	Title	: Elementary Plant Biotechnology		
Credits	: 2(1+1)				
Day & Date	: Wednesday, 08.02.2023	Time	: 9:00 to 11:00 hrs.	Total Marks	: 40

Note : 1. Solve ANY EIGHT questions from SECTION 'A'.
2. All questions from SECTION 'B' are compulsory.
3. All questions carry equal marks.
4. Draw neat diagram wherever necessary.

SECTION 'A'

Q.1 Define plant biotechnology. Write down the scope and importance of plant biotechnology.

Q.2 What do you mean by somatic hybridization? Describe procedure for somatic hybridization.

Q.3 What do you mean by QTL mapping? Enlist different methods of QTL mapping and explain any one in detail.

Q.4 What is micropropagation? Describe in brief stages of micropropagation and write its applications in agriculture.

Q.5 Define molecular marker. Enlist different types of molecular marker. Write down its applications in crop improvement.

Q.6 Define somatic embryogenesis. Describe factors affecting somatic embryogenesis.

Q.7 Define somaclonal variation. Write its causes and applications in crop improvement.

Q.8 What is plant tissue culture? Describe in detail the basic requirements in plant tissue culture.

Q.9 What is genetic transformation? Enlist the various methods of gene transfer and explain any one of them.

Q.10 Write short notes on (Any Two):

a) DNA fingerprinting b) Nanotechnology c) Blotting techniques

SECTION 'B'

Q.11 Define the following terms:

1) Plasmid 2) Totipotency 3) Clone 4) Cybrid

Q.12 Give the contribution of following Scientists:

1) Karl Erkey 2) Haberlandt 3) Paul Berg 4) E.M. Southern

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