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(FOR THE CANDIDATES ADMITTED
DURING THE ACADEMIC YEAR 2019-2022 ONLY)

19UBY614

REG.NO. :

N.G.M.COLLEGE (AUTONOMOUS) : POLLACHI

END-OF-SEMESTER EXAMINATIONS : JULY 2022

B.Sc.-BOTANY **MAXIMUM MARKS: 75**

SEMESTER : VI **TIME : 3 HOURS**

PART - III
PLANT BIOTECHNOLOGY

SECTION – A (10 X 1 = 10 MARKS)

ANSWER THE FOLLOWING QUESTIONS.
MULTIPLE CHOICE QUESTIONS. (K1)

1. Which of the following is the main effect of cytokines in the tissue culture system?
   a) Adventitious shoot formation b) Induction of somatic embryos
   c) Adventitious root formation d) Shoot elongation

2. The developmental of numerous well organized small embryoids in vegetative cells is defined as_____.
   a) Organogenesis b) Micropropagation c) Somatic embryogenesis d) Suspension culture

3. The *in vitro* development of haploid plants is called as_____.
   a) Organogenesis b) Androgenesis c) Embryogenesis d) Micropropagation

4. Which of the plant growth regulators are produced by TDNA?
   a) Salicyclic acid b) Cytokinin c) Cytokinin and Auxin d) Jasmonic Acid

5. Insect resistance in transgenic cotton has been developed by inserting a piece of DNA from_____.
   a) an insect b) wild relative of cotton c) a virus d) a soil bacterium

ANSWER THE FOLLOWING IN ONE (OR) TWO SENTENCES (K2)

6. Totipotency
7. Cryopreservation
8. Synthetic seeds
9. Selectable markers
10. Plantibodies

SECTION – B (5 X 5 = 25 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS. (K3)

11. a) Write the composition of MS medium.

(OR)

b) Elcidate the method of explant sterilization.

12. a) Explain the methods of meristem culture.

(OR)

b) Briefly discuss somoclonal variations.

(CONTD …. 2)

13.a) Give an account of pollen culture.

(OR)

b) Eloborate the technique of synthetic seed preparation

14.a) Describe the method of Electroporation

(OR)

b) Illustrate the structure of T-DNA.

15.a) Comment on insect resistant plants

(OR)

b) Explain edible vaccines.

SECTION - C (4 X 10 = 40 MARKS)

ANSWER ANY FOUR OUT OF SIX QUESTIONS
(16th QUESTION IS COMPULSORY AND ANSWER ANY THREE QUESTIONS
(FROM Qn. No : 17 to 21) (K4 (Or) K5)

16. Explain in detail Intellectual Property Rights (IPR).

17. Assess the various stages of micropropagation.

18. Summarise the cryopreservation techniques.

19. Elucidate the methods of somatic hybridization.

20. Explain the molecular events in tDNA transfer to host plants.

21. Comment on Bt cotton.

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