

C 21151

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Name.....

Reg. No.....

SIXTH SEMESTER B.Sc. DEGREE EXAMINATION, MARCH 2017

(CUCBCSS—UG)

Biotechnology

BTY 6B 13—PLANT BIOTECHNOLOGY

Time : Three Hours

Maximum : 80 Marks

Section A

Answer any two out of four questions in about 1,500 words.

Each question carries 10 marks.

1. Describe anther culture and its applications.
2. Explain the use of Agrobacterium in plant genetic transformation.
3. Explain the micropropagation pathway of regeneration and its merits.
4. How are somatic hybrids produced ? Describe.

(2 × 10 = 20 marks)

Section B

Answer any seven of fourteen questions in about 750 words.

Each question carries 5 marks.

5. Trace the milestones in history of plant tissue culture.
6. Give an account on cryopreservation and its merits over slow growth.
7. Application of micropropagation in horticulture.
8. Selection of somatic hybrids.
9. Protoplast culture methods.
10. Virus free plant production.
11. What is somaclonal variation ?
12. How do you design a medium for callus culture ?
13. Explain how embryo culture aids in embryo rescue.
14. Pollen culture and its significance.
15. Single cell culture.
16. TI plasmid.
17. Secondary metabolite production in culture.
18. Callus culture.

(7 × 5 = 35 marks)

Turn over

Section C

Answer all questions in about 300 words.

Each question carries 3 marks.

19. Cybrid.
20. Ri plasmid.
21. Reporter genes.
22. MS medium.
23. Virus indexing.

(5 × 3 = 15 marks)

Section D

Answer all questions in about 200 words.

Each question carries 2 marks.

24. Somatic embryos.
25. Rooting.
26. BAP.
27. Synthetic seeds.
28. Surface sterilants.

(5 × 2 = 10 marks)