



**2021/TDC (CBCS)/EVEN/SEM/
BOTHCC-602T/112**

**TDC (CBCS) Even Semester Exam.,
September—2021**

BOTANY

(6th Semester)

Course No. : BOTHCC-602T

(Plant Biotechnology)

Full Marks : 50

Pass Marks : 20

Time : 3 hours

*The figures in the margin indicate full marks
for the questions*

SECTION—A

Answer any *ten* of the following questions : $2 \times 10 = 20$

1. What is organogenesis?
2. What is totipotency?
3. What is cryopreservation?
4. What is germplasm?



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5. What is shuttle vector?
6. What is phagemid?
7. What is BAC?
8. What is pBR 322?
9. What is cDNA library?
10. What is colony hybridization?
11. What is recombinant DNA?
12. What is complementation?
13. What is electroporation?
14. What is microprojectile bombardment?
15. What is microinjection?
16. Define selectable marker.
17. What is Bt cotton?
18. What are transgenic crops?
19. What is superbug?
20. What is humulin?

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(Continued)

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SECTION—B

Answer any five of the following questions : $6 \times 5 = 30$

21. Write a note on the role of plant hormones in tissue culture. 6
22. What is androgenesis? Describe briefly the technique of *in vitro* microspore culture for plant regeneration. $1+5=6$
23. Write short notes on the following : $3+3=6$
 - (a) YAC
 - (b) Cosmid
24. Write a note on biological role of type-II restriction endonucleases. Mention its application. $3+3=6$
25. What is PCR? State briefly the principle of PCR. Describe any three applications of PCR. $1+2+3=6$
26. Describe briefly discovery of bacterial transformation. Mention the mechanism of bacterial transformation. $3+3=6$
27. Write a note on Agrobacterium-mediated gene transfer. 6

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(Turn Over)



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28. Write a note on reporter gene with special reference to luciferase and GUS. 6

29. Write short notes on the following : 3+3=6

(a) Edible vaccine

(b) Biosafety concerns

30. Write an essay on transgenic crops with special reference to Flavr Savr tomato and Golden rice. 6
