



**2023/TDC(CBCS)/EVEN/SEM/
BTCDSC/GE-201T/282**

TDC (CBCS) Even Semester Exam., 2023

BIOTECHNOLOGY

(2nd Semester)

Course No. : BTCDSC/GE-201T

(Biotechnology and Human Welfare)

Full Marks : 50

Pass Marks : 20

Time : 3 hours

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

SECTION—A

Answer any *fifteen* questions : 1×15=15

1. What are the building blocks of proteins?
2. What is an enzyme?
3. Draw the structure of the amino acid cysteine.
4. What is Bt cotton?
5. What is transgene?



(2)

6. Write down the name of any one free living bacteria.
7. What is symbiosis?
8. What is nitrogen fixation?
9. Define biodegradable polymers.
10. Name a nonchlorinated pollutant.
11. What is PCR?
12. What is the function of nitrocellulose filter paper in southern hybridization?
13. What is the probe used in southern hybridization?
14. What is a vaccine?
15. What are the four types of evidences in a criminal investigation?
16. What is the definition of forensic science?
17. What is gene therapy?
18. What is a monoclonal antibody?
19. What are myeloma cells?
20. When did the Human Genome Project start?

J23/533

(Continued)

(3)

SECTION—B

Answer any *five* questions : 2×5=10

21. What is protein engineering?
22. Explain site-directed mutagenesis.
23. Describe nitrogen cycle.
24. How does nitrogen fixation occur in leguminous plants?
25. Write down the names of two plant growth promoting bacteria. How do they help in growth of the plant?
26. What is xenobiotic compound?
27. What are chlorinated pollutants? Give an example.
28. What is DNA fingerprinting?
29. Explain stress management.
30. How do microbes help in biodegradation?

SECTION—C

Answer any *five* questions : 5×5=25

31. Describe industrial production of antibiotics. Name two antibiotics.

J23/533

(Turn Over)



(4)

32. What are the steps of alcohol production in industry?
33. Describe the mechanism of transfer of pest resistant gene to plants.
34. What are the different types of interactions between plants and microbes? Explain briefly.
35. Give an account of degradation of hydrocarbons.
36. What are the types of agricultural wastes? What are the methods of agricultural waste management?
37. What is the importance of forensic science? Describe the steps of data collection from crime spot.
38. Describe the method of DNA fingerprinting.
39. What is recombinant vaccine? Write a note on gene therapy.
40. Write down the applications of monoclonal antibody.
