

2023/TDC(CBCS)/ODD/SEM/
BTCDSE-502T/282

TDC (CBCS) Odd Semester Exam., 2023

BIOTECHNOLOGY

(5th Semester)

Course No. : BTCDSE-502T

(Animal Biotechnology)

Full Marks : 50

Pass Marks : 20

Time : 3 hours

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

SECTION—A

Answer *fifteen* questions, selecting any *three* from
each Unit : 1×15=15

UNIT—I

1. Define stem cell.
2. Write down the function of reverse transcriptase.
3. Write down the disadvantage of retroviral gene transfer method.
4. Define electroporation.

(2)

UNIT—II

5. What is transgenic animal?
6. Write down the application of transgenic cow.
7. Write down the clinical sign of theileriosis.
8. Write down the causative organism for coccidiosis.

UNIT—III

9. What do you mean by superovulation?
10. Define cloning.
11. Write down the disadvantages of cloning.
12. What do you mean by pseudopregnant female?

UNIT—IV

13. Define in-vitro gene therapy.
14. Name two diseases which can be cured by gene therapy.
15. Write about non-viral vector mediated gene therapy.
16. Define lipofection.

24J/281

(Continued)

(3)

UNIT—V

17. Write down the full form of CRISPR.
18. What do you mean by nanobiotechnology?
19. Define gene editing.
20. What is metabolic engineering?

SECTION—B

Answer *five* questions, selecting *one* from each
Unit : 2×5=10

UNIT—I

21. What do you mean by embryonic stem cell?
22. Write about the component of simple retrovirus genome.

UNIT—II

23. Write down the application of transgenic pig.
24. Write a note on foot and mouth disease.

UNIT—III

25. Define artificial insemination.
26. Write a note on SCNT.

24J/281

(Turn Over)

(4)

UNIT—IV

27. What do you mean by ex-vivo gene therapy?
28. Write down the problems associated with gene therapy.

UNIT—V

29. Write a note on xenotransplantation.
30. What is designer baby?

SECTION—C

Answer *five* questions, selecting *one* from each
Unit : $5 \times 5 = 25$

UNIT—I

31. Describe the technique of microinjection.
Add a note on application of microinjection. $4+1=5$
32. Write a note on retroviral gene transfer.

UNIT—II

33. Describe the process of production of transgenic insect.
34. Write down the clinical signs of trypanosomiasis. What is the role of biotechnology in controlling trypanosomiasis? $3+2=5$

24J/281

(Continued)

(5)

UNIT—III

35. Describe the steps involved in embryo transfer technology.
36. Write down the applications of stem cell technology.

UNIT—IV

37. Differentiate between somatic cell gene therapy and germ cell gene therapy. Add a note on application of gene therapy. $2\frac{1}{2}+2\frac{1}{2}=5$
38. Write a note on viral-vector mediated gene therapy.

UNIT—V

39. What do you mean by molecular engineering? Add a note on application of genetic engineering and protein engineering in healthcare. $2+3=5$
40. Discuss the problems and ethics associated with human genetic engineering.

2023/TDC(CBCS)/ODD/SEM/
BTC DSE-502T/282

24J—110/281