

Reg. No. :

Name :

Third Semester B.Sc. Degree Examination, March 2022

Career Related First Degree Programme under CBCSS

Group 2(a) — Biochemistry and Industrial Microbiology

Vocational Course IV

IM 1372 — MICROBIAL GENETICS AND BIOTECHNOLOGY

(2019 & 2020 Admission)

Time : 3 Hours

Max. Marks : 80

SECTION – A

Answer **all** questions. Each question carries **1** mark.

Define :

1. Protoplast
2. Alleles
3. Microinjection
4. Trademarks
5. Ames test
6. Callus culture
7. Transgenic animals
8. Patent
9. Somatic hybridization
10. IPR

(10 × 1 = 10 Marks)

P.T.O.

SECTION – B

Answer any **eight** of the following. Each question carries 2 marks.

11. Mendel's law of genetics
12. Sex linked inheritance
13. Technique of protoplast culture
14. Crossing over
15. Multiple alleles
16. Genetically modified organisms
17. Transgenic plants
18. Conjugation
19. Electroporation
20. Cell suspension culture
21. Biolistics
22. Copyright
23. Plant tissue culture media
24. Bacterial transformation
25. Animal cell lines
26. DNA technology

(8 × 2 = 16 Marks)

SECTION – C

Answer any **six** of the following. Each question carries 4 marks.

27. Test cross and back cross.
28. Importance of generalized and specialized transduction.
29. Micropropagation.
30. Differentiate copyright and trademarks.

31. Plant tissue culture techniques.
32. Explain different methods of introducing foreign DNA into cells.
33. Gene Mapping.
34. Animal tissue culture media preparation.
35. Differentiate between linkage and crossing over.
36. Applications of plant tissue culture.
37. What are the ethical problems associated with DNA technology?
38. Patenting transgenic organisms.

(6 × 4 = 24 Marks)

SECTION – D

Answer any **two** of the following. Each question carries **15** marks.

39. Explain prokaryotic replication and its types.
40. Discuss animal cell culture with reference to culture methods and cell lines.
41. What is IPR? Discuss about the different forms of IPR.
42. Describe gene transfer mechanisms in bacteria.
43. Detailed notes on Plant tissue culture techniques and Transgenic plants.
44. Explain different methods of introducing foreign DNA into Cell.

(2 × 15 = 30 Marks)