(Pages : 4) **M – 1803**

Reg. No. : .....

Name : .....

Fifth Semester B.Sc. Degree Examination, December 2021

Career Related First Degree Programme Under CBCSS

Group 2(a) – Botany and Biotechnology

BB 1573 –– ANIMAL BIOTECHNOLOGY

(2018 Admission)

Time : 3 Hours Max. Marks : 80

SECTION – A

Answer **all** questions in a word or **one** or **two** sentences. **Each** question carries **1** mark.

1. What are cell strains?

2. Mention the uses of animal cell culture.

3. What are interferons?

4. Define tissue plasminogen activator.

5. What are transgenic animals?

6. What are stem cells?

7. Define gene therapy.

8. Define growth factors.

P.T.O.

9. What are animal bioreactors?

10. Define interleukins.

(10 × 1 = 10 Marks)

SECTION – B

Answer any **eight** questions. **Each** question carries **2** marks. (Answer not to exceed **one** paragraph)

11. What is cell synchronization?

12. What is luminescent cell viability assay?

13. Explain gene therapy.

14. Write a short note on cell culture medium.

15. Give the clinical uses of stem cell culture.

16. What are anchor dependent cells?

17. Explain the proliferation of animal cell culture.

18. What are transformed cell lines?

19. Explain different tissue grafting methods.

20. Distinguish between organ culture and tissue culture.

21. What is the significance of factor IX?

22. What is stem cell technology?

23. Explain MTT assay of cells

24. What are transgenic animals?

25. What is a cell line? Explain its types.

26. What are induced pluripotent stem cells?

(8 × 2 = 16 Marks)

SECTION – C

Answer any **six** questions. **Each** question carries **4** marks. (Answer not to exceed **120** words)

27. Explain cell viability assay.

28. What is DNA fingerprinting? How it can be utilized for animal cell line characterization.

29. How virus is cultivated in cell culture?

30. Write a brief account on media components in animal cell culture.

31. Explain the mechanism of large-scale cultivation of animal cells.

32. Write an account on the instruments and equipments needed for animal cell culture.

33. Explain the techniques of animal cell culture.

34. Explain the applications of cell culture.

35. Give an account on the growth factors promoting proliferation of animal cell culture.

36. Explain different therapeutic monoclonal antibodies.

37. Explain briefly different standards for cell line selection.

38. Explain the practical uses of transgenic animals.

(6 × 4 = 24 Marks)

SECTION – D

Answer any **two** questions. **Each** question carries **15** marks. (Answer not to exceed **three pages)**

39. What is a cell line? Give a detailed account on different cell lines and their applications.

40. Describe the different products of animal cell culture.

41. Explain in detail the preservation and maintenance of animal cell culture.

42. What are GMO? How they are produced? Mention its practical uses.

43. Explain different stem cell cultures and their clinical uses.

44. Explain different techniques used to scale up animal cell cultures.

(2 × 15 = 30 Marks)

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