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Reg. No.....

Name.....

B.Sc. DEGREE (C.B.C.S.S.) EXAMINATION, APRIL 2022

Fifth Semester

Core Course 18—ANIMAL BIOTECHNOLOGY

(For B.Sc. Biotechnology)

[2013—2016 Admissions]

Time : Three Hours

Maximum Marks : 80

Part A

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

1. What is a clone ?
2. Write about 'cell strain'.
3. What are stem cells ?
4. Write about HEPA filter.
5. Mention the use of collagenase.
6. Name a chelating agent and mention its function.
7. What are cell lines ?
8. Point out use of trypsin in animal cell culture.
9. What is pluripotency ?
10. Mention the importance of growth factors in a medium.

(10 × 1 = 10)

Part B

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

11. Write a note on serum free media.
12. Explain the importance of filter sterilization and surface sterilization.
13. Write about eagles medium.
14. Explain the term 'established cell lines'.
15. Write an account on micro nutrients.
16. Give an account on monolayer culture.
17. Explain how sterility of animal cell culture facility can be maintained.

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18. Write a note on cell differentiation.
19. Explain the characters of anchorage dependent cells.
20. Write a note on 3D culture.
21. Write about hormones used in animal cell culture.
22. Write about transformed animal cells.

(8 × 2 = 16)

Part C

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

23. Write an account on natural and synthetic media.
24. What are vaccines ? Explain the synthesis of vaccines through cell culture.
25. Explain the procedure for production of metabolism from animal cell culture.
26. Differentiate suspension and immobilized culture.
27. Write about the applications of animal cell culture.
28. Explain the basic requirements of an animal cell culture facility.
29. Differentiate knock in and knock out technology.
30. Give an account on primary and secondary cell cultures.
31. Explain how monoclonal antibodies can be prepared.

(6 × 4 = 24)

Part D

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

32. Describe the procedure for preparation of animal cell culture media. Mention the major components of a culture media.
33. Explain how cells can be cultured in large scale. Mention the difficulties in such cultures.
34. Write an account on transgenic animals. Mention the uses and difficulties in transgenesis.
35. Explain the origin and characters of animal cell lines. Mention the difficulties in the maintenance of cell lines.

(2 × 15 = 30)

