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Reg. No.....

Name.....

**B.Sc. DEGREE (C.B.C.S.S.) EXAMINATION, OCTOBER 2015**

**Fifth Semester**

Core Course 18—ANIMAL BIOTECHNOLOGY

(For B.Sc. Biotechnology)

[2013 Admissions]

Time : Three Hours

Maximum : 80 Marks

**Part A**

*Answer all questions.*

*Each question carries 1 mark.*

1. What is a vector ?
2. What is cell immobilization ?
3. What are haptens ?
4. What is a cell line ?
5. Give a medicinally important compound produced from transgenic cow.
6. What is 3D culture ?
7. What is microfiltration ?
8. What are vaccines ?
9. Name two enzymes used for disaggregation of cells in animal cell culture.
10. Write about antigenic determinant.

(10 × 1 = 10)

**Part B**

*Answer any eight questions.*

*Each question carries 2 marks.*

11. Give a note on serum containing media.
12. What is the role of T cells in antibody production ?
13. What are the sterilization techniques used to sterilize glasswares ?
14. Point out uses of balanced salt solution.
15. What are attenuated vaccines ?
16. Write about monolayer culture.
17. Write a note on HAT medium.
18. Explain importance of CO<sub>2</sub> incubator in animal cell culture.

**Turn over**

19. Differentiate transformation and transfection.
20. Write a short note on Bioreactors.
21. What is a feeder layer ? Point out its significance.
22. How can we culture non-anchorage dependant cell lines ?

(8 × 2 = 16)

### Part C

*Answer any six questions.  
Each question carries 4 marks.*

23. Explain cell differentiation in culture.
24. Give an outline of basic requirements of animal cell culture.
25. Explain organ culture and its importance.
26. Explain anchorage dependent cells. Write about common materials used for anchorage in cell culture.
27. How continuous cell culture can be established and maintained ?
28. Explain importance of growth factors in cell culture media.
29. Give an account of vaccine production.
30. Give a note on applications of animal cell culture.
31. Discuss techniques for transformation of animal cells.

(6 × 4 = 24)

### Part D

*Answer any two questions.  
Each question carries 15 marks.*

32. Describe method for large scale culture of cell lines.
33. Explain how transgenic animals can be produced. Point out the importance of transgenic mice and cow.
34. Write about natural and synthetic media. Give an account of preparation and sterilization of media.
35. What is a hybridoma ? Explain monoclonal antibody production using hybridomas.

(2 × 15 = 30)

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