

Roll No.

Total Pages : 3

MDE/M-20

6953

ANIMAL CELL AND TISSUE CULTURE

Paper–BT-109(A)

Time : Three Hours]

[Maximum Marks : 40

Note : Attempt *five* questions in all, selecting *one* question from each unit. Question No. 1 is compulsory. All questions carry equal marks.

Compulsory Question

1. Explain the following:

- (a) Organ culture.
- (b) CHO.
- (c) Primary culture.
- (d) Sterile handling.
- (e) Split ratio.
- (f) Interferons.
- (g) Feeder layer.
- (h) Crypreservation of cells.

(1×8=8)

UNIT-I

2. (a) What are the requirements for animal cell and tissue culture? 3

- (b) Briefly list the applications and limitations of cell and tissue culture. 3
- (c) Write the elements of aseptic conditions in the animal tissue culture laboratory. 2
- 3. (a) Write a note on significance of substrate and culture vessel for culturing of animal cell. 4
- (b) What are the treated substrates? Explain with suitable examples. 4

UNIT-II

- 4. (a) Explain the role of serum in animal cell culture media. 4
- (b) Outline the steps for development of serum free media. 4
- 5. Discuss the different components of a complete animal cell culture media along with its physiochemical properties. 8

UNIT-III

- 6. (a) Describe suspension culture systems? 4
- (b) Write a note on microcarrier technology. 4
- 7. Define 'Primary culture' and 'Cell lines'. Briefly describe the different methods for cell line characterization. 8

UNIT-IV

8. Write an essay on production of commercial products from animal cell cultures. 8
 9. Discuss the following in context of applications of animal cell culture.
 - (a) Cancer research.
 - (b) Cytotoxicity testing.
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