

**10207**

**LMDE/M-24**

**ANIMAL CELL AND TISSUE CULTURE**

**Paper : BT-202**

**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 very briefly :

- (i) Cytokines.
- (ii) Antigen markers.
- (iii) Trypsinization.
- (iv) Confluency.
- (v) Virology.
- (vi) Contact inhibition.
- (vii) Genetic counselling.
- (viii) Scale up.

(1×8=8)

**UNIT-I**

**2.** Design the laboratory layout and enlist equipments, chemicals and other requirements for setting up an animal tissue culture laboratory. (8)

3. Write short notes on the following :
- (a) Cross contamination.
  - (b) Treated surfaces.
  - (c) Sterile handling.
  - (d) Advantages of animal tissue culture. (4×2=8)

## UNIT-II

4. What do you mean by balanced salt solution and complete media? Briefly describe various types of media used for animal cell cultures. Also explain the role of serum in the culture media along with its advantages and disadvantages. (8)
5. Write short notes on the following :
- (a) Flow cytometry.
  - (b) Cell viability assays. (2×4=8)

## UNIT-III

6. Give a detailed account of establishment of cell cultures and evolution of cell lines. Also briefly explain the methods for cell line characterization. (8)
7. Discuss the following :
- (a) Micro-carriers technology
  - (b) Airlift bioreactors. (2×4=8)

#### UNIT-IV

8. Write notes on the following :
- (a) Cryopreservation and cell banking.
  - (b) Animal cloning. (2×4=8)
9. Discuss in detail the production of the following :
- (a) Monoclonal antibodies.
  - (b) Hormones. (2×4=8)
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