

L-19/2050

TISSUE AND CELL CULTURE TECHNOLOGY-XIII
(Semester-IV)

Time : Two Hours]

[Maximum Marks : 75

Note : Attempt any *four* questions. All questions carry equal marks.

- I. Discuss in detail methodology, importance and advantages of suspension culture.
- II. Describe how, protoplasts are isolated, fused and cultured? When and why we go this technique of tissue culture?
- III. Write notes on:
 - (a) Somaclonal variations.
 - (b) History of plant cell culture.
- IV. Write a detailed note on anther culture.
- V. Write a note on history of animal cell culture. How animal cell culture is different from plant cell culture?
- VI. Write a detailed note on scale up of animal cell culture.

VII. Write notes on:

- (a) Methods of somatic cell fusion.
- (b) Applications of stem cell culture.

VIII. Describe how are animal cell lines established. What are the properties and applications of animal cell lines ?

IX. Attempt all parts :

- (a) Describe how callus can be induced in culture?
 - (b) What makes a plant cell totipotent?
 - (c) Distinguish between organogenesis and embryogenesis.
 - (d) What is meant by embryo rescue?
 - (e) Define cybrids.
 - (f) Distinguish between cell and suspension culture.
 - (g) Name the animal whose most of the cells are totipotent
 - (h) Name the steps involved in animal cloning.
 - (i) What is meant by monolayer culture?
 - (j) Name the most common media used for animal cell culture.
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