

Roll No. ....

Total Pages : 3

**1921/M**

**M-47/2051**

**TISSUE AND CELL CULTURE TECHNOLOGY**

Paper–XIII

Semester–IV

Time allowed : 3 Hours] [Maximum Marks : 75

**Note:** The candidates are required to attempt two questions each from Section A and B carrying 15 marks each and the entire Section C consisting of 10 questions carrying 1½ marks each.

**SECTION-A**

1. Explain briefly about Cellular Totipotency? 15
2. Write down the mechanism of Organogenesis and Embryogenesis? 15
3. Give a detailed account on Embryo Culture and Anther Culture? 15

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4. Discuss briefly about Secondary Plant Metabolites and its applications of plant biotechnology in crop improvement? 15

**SECTION-B**

5. Write down history of Cell Culture and discuss establishment and evaluation of Cell Culture? 15
6. Give properties and use of Cell Lines? How Cryopreservations of animal cell can be done? 15
7. What are the properties, methods of somatic cell fusion and their applications in medical field? 15
8. Discuss industrial applications of Animal and Stem Cell Culture. 15

**SECTION-C**

9. Explain the following in short :
  - (i) Tissue Culture
  - (ii) Cell Culture
  - (iii) Cybrids

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- (iv) Suspension culture
- (v) Somatic cell
- (vi) Cloning
- (vii) Cell hybrids
- (viii) Embryo
- (ix) *In-vitro* fertilization
- (x) Protoplast.

$$10 \times 1\frac{1}{2} = 15$$