

Roll No : .....

Total No. of Questions : 11 ]

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# SP-716

M.Sc. (Final) Examination, 2021

BIOTECHNOLOGY

Paper - V

(Cell and Tissue Culture)

Time : 1½ Hours ]

[ Maximum Marks : 75

## Section-A

(Marks : 2 × 10 = 20)

**Note :-** Answer all *ten* questions (Answer limit 50 words). Each question carries 2 marks.

(खण्ड-अ)

(अंक : 2 × 10 = 20)

**नोट :-** सभी दस प्रश्नों के उत्तर दीजिए (उत्तर-सीमा 50 शब्द)। प्रत्येक प्रश्न 2 अंक का है।

## Section-B

(Marks : 5 × 5 = 25)

**Note :-** Answer all *five* questions. Each question has internal choice (Answer limit 200 words). Each question carries 5 marks.

(खण्ड-ब)

(अंक : 5 × 5 = 25)

**नोट :-** सभी पाँच प्रश्नों के उत्तर दीजिए। प्रत्येक प्रश्न में विकल्प का चयन कीजिए (उत्तर-सीमा 200 शब्द)। प्रत्येक प्रश्न 5 अंक का है।

## Section-C

(Marks : 10 × 3 = 30)

**Note :-** Answer any *three* questions out of five (Answer limit 500 words). Each question carries 10 marks.

(खण्ड-स)

(अंक : 10 × 3 = 30)

**नोट :-** पाँच में से किन्हीं तीन प्रश्नों के उत्तर दीजिए (उत्तर-सीमा 500 शब्द)। प्रत्येक प्रश्न 10 अंक का है।

BI-350

( 1 )

SP-716 P.T.O.

**Section–A**

2 each

1. (i) What is meant by Callus Culture ?
- (ii) What is *in vitro* pollination in plants ?
- (iii) What do you mean by floriculture ?
- (iv) How symmetric and asymmetric hybrids differ from each other ?
- (v) What is Stas Otto method ?
- (vi) What do you understand by cell immobilization ?
- (vii) Why are somaclonal variations important ?
- (viii) What is the difference between RFLP and AFLP ?
- (ix) Why is cell synchronization is important in animal cell culture ?
- (x) Write the advantages of animal cloning.

**Section–B**

5 each

2. Mention the types of cell suspension culture. How are these used in plant cell technology.

*Or*

What is embryo rescue technique ? Write the merits of this technique.

3. What is Micropropagation ? Mention its limitations.

*Or*

Discuss the applications of tissue culture in forestry.

4. What is Biotransformation ? Give its applications.

*Or*

Describe the role of elicitors in secondary metabolites.

5. Give a detailed account on advantages of tissue culture plants.

*Or*

Write a short note on gametoclonal variations.

6. What are Transgenic Animals ? Write their applications.

*Or*

Describe the applications of monoclonal antibodies.

**Section–C**

10 each

7. Give an account of another culture and discuss its role in plant breeding.
8. What do you understand by germplasm conservation ? Explain any *two* methods of germplasm conservation with their merits and demerits.
9. Give an account on secondary metabolism and discuss the importance of alkaloids in medicine and agriculture.
10. Discuss the scope and importance of biotechnology.
11. Write an explanatory note on animal cell culture.