

**Bachelor of Science (B.Sc.) Semester—VI (C.B.S.) Examination**

**BIOTECHNOLOGY**

**Paper—2**

**(Plant and Animal Biotechnology)**

Time : Three Hours]

[Maximum Marks : 50]

**N.B. :—** (1) All questions are compulsory and carry equal marks.  
(2) Draw diagrams wherever necessary.

1. Describe the initiation and maintenance of suspension culture. 10

**OR**

Write notes on :

(a) Laboratory facility required for PTC Lab. 5  
(b) Preparation of plant tissue culture media. 5

2. Describe the somatic hybridization of plants. 10

**OR**

Write notes on :

(a) Protoplast culture 5  
(b) Ti-plasmid and its applications. 5

3. Write notes on :

(a) Culture media for animal cell culture 5  
(b) Contact inhibition and anchorage dependence of cells in culture. 5

**OR**

Describe in detail the maintenance of cell lines in the laboratory. 10

4. Describe the production of recombinant vaccines with suitable examples. 10

**OR**

(a) Give the concept of transgenic animals. 5  
(b) What is IVF ? Give its applications. 5

5. Solve any **ten** of the following :

- (i) Define Callus.
- (ii) What is meant by Single Cell Clones ?
- (iii) Name the chemical used in PTC for shoot induction.
- (iv) Write the name of any one transgenic plant.
- (v) Give one application of protoplast fusion.
- (vi) What is microp propagation ?
- (vii) What is a cell line ?
- (viii) What are immortal cells ?
- (ix) What is a primary culture ?
- (x) What is gene therapy ?
- (xi) Give one example of transgenic animal.
- (xii) Name any one recombinant DNA product used in medicine.

$10 \times 1 = 10$