

**Fourth Semester B. Sc. Biotechnology
Examination**

Paper – II

PLANT AND ANIMAL BIOTECHNOLOGY

Time : Three Hours] [Max. Marks : 50

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

1. What is callus ? Describe callus culture technique. 10

OR

Write short notes on :—

(a) Macro nutrients. 5
 (b) Surface sterilization in PTC. 5
 2. Describe in detail production of haploid plant by Anther culture technique. 10

OR

Write short notes on :—

(A) Bt-cotton 5
 (B) Ti –Plasmid 5

3. Give in detail components of animal cell culture media and their role. 10

OR

Write note on :—

(a) Cell-cell communication. 5
 (b) Maintenance of cell lines. 5

4. Write a note on :—

(a) Production of Insulin by recombinant DNA technology. 5
 (b) In-vitro fertilization in humans. 5

OR

Write a note on :—

(a) Gene therapy. 5
 (b) Transgenic animals. 5

5. Solve any Ten :—

(i) What is thermostable hormone ? 1
 (ii) What is the role of disodium EDTA in plant tissue culture media ? 1
 (iii) What is an explant ? 1
 (iv) What is micropropagation ? 1
 (v) What is somatic hybridization ? 1
 (vi) Name any two auxins. 1
 (vii) What is trypsinization ? 1

- (viii) What are immortal cells ? 1
- (ix) What is cell senescence ? 1
- (x) Give two examples of recombinant vaccines. 1
- (xi) What is the role of somato statin ? 1
- (xii) Give any two uses of IVF in farm animals. 1