

NRT/KS/19/2196

Bachelor of Science (B.Sc.) Semester–VI Examination
PLANT AND ANIMAL BIOTECHNOLOGY
Optional Paper—2
(Biotechnology)

Time : Three Hours]

[Maximum Marks : 50

Note :— (1) **All** questions are compulsory and carry equal marks.

(2) Draw diagrams wherever necessary.

1. Describe the composition and preparation of PTC media. 10

OR

Write on :

(a) Laboratory facilities required for a plant tissue culture. 5

(b) Initiation and maintenance of suspension culture. 5

2. Write short notes on :

(a) Protoplast culture 5

(b) Applications of transgenic plants. 5

OR

Discuss the techniques of micropropagation and its applications. 10

3. Write notes on :

(a) Primary culture 5

(b) Growth factors required for cell culture. 5

OR

Describe the maintenance of cell lines in laboratory. 10

4. Describe in short on :

(a) Insulin — a product of rDNA technology 5

(b) Transgenic animals. 5

OR

(c) Production of hepatitis vaccine 5

(d) Gene therapy. 5

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

(i) Define callus

(ii) What is single cell clone ?

(iii) Name any one phytohormone.

(iv) What is Ti plasmid ?

(v) Give full form of PEG.

(vi) Name the gene of *Bacillus thuringiensis* used in Bt-cotton.

(vii) What is Hayflick's limit ?

(viii) What are trophic factors ?

(ix) What is CAM ?

(x) Give the role of somatostatin.

(xi) Name any one transgenic animal.

(xii) What is meant by in-vitro fertilization ? 1×10=10