

This question paper contains 2 printed pages]

Your Roll No

5234

B.Sc. Prog. / III

J

EL – 310(iii) – BIOTECHNOLOGY

(NC – Admissions of 2005 and onwards)

Time : 2 Hours

Maximum Marks : 38

(Write your Roll No on the top immediately on receipt of this question paper)

Attempt **four** questions in all Q No **1** is compulsory

- 1 (a) Define any **four** of the following **1 × 4 = 4**
- (i) Protoplast fusion
 - (ii) Explant
 - (iii) Cosmid
 - (iv) Microinjection
 - (v) Parasexual hybridization
- (b) Differentiate between any **four** of the following **2 × 4 = 8**
- (i) Primary culture and cell lines
 - (ii) Autoclave and cryopreservation
 - (iii) Cell separation and cell synchronization
 - (iv) Solid state fermentation and submerged fermentation
 - (v) Somatic and adventitive embryony

- (c) Expand any four of the following $\frac{1}{2} \times 4 = 2$
- (i) DBT
 - (ii) IgG
 - (iii) SCP
 - (iv) RFLP
 - (v) FISH
- 2 (a) Explain the production and application of transgenic animals 4
- (b) Differentiate between conventional plant breeding and genetic engineering 4
- 3 What are fermenters ? How many types of fermenters are studied by you ? Describe giving advantages and disadvantages of each one of these 8
- 4 Discuss PCR along with its applications 8
- 5 (a) What is parasexual hybridization ? Mention the steps involved in protoplast fusion 4
- (b) What are Restriction Endonucleases
Discuss various types of Endonucleases 4
- 6 Write short notes on any two $4 \times 2 = 8$
- (i) Centrifugation
 - (ii) Biofuels
 - (iii) Totipotency
 - (iv) DNA fingerprinting