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BR—2—2016

FACULTY OF SCIENCE

M.Sc. (Second Year) (Third Semester) EXAMINATION

OCTOBER/NOVEMBER, 2016

(CBCS Pattern)

BIOTECHNOLOGY

Paper BT-XI

(Genetic Engineering)

Wednesday, 16-11-2016)

Time : 2.00 p.m. to 5.00 p.m.

Time—Three Hours

Maximum Marks—75

N.B. :— (i) Attempt *All* questions.

(ii) *All* questions carry equal marks.

(iii) Draw neat and well labelled diagrams wherever necessary.

1. What are restriction endonucleases ? Write a note on their types and properties. 15

Or

(a) Define vectors. Explain in detail PUC 18/19 as vector. 8

(b) Write a note on Ti plasmid derived vectors. 7

2. What are genomic and cDNA libraries ? Explain. 15

Or

(a) Describe in detail Southern blotting. 8

(b) Write a note on labelling of DNA and RNA probes. 7

3. Describe in detail Maxam-Gilbert method of DNA sequencing. 15

Or

(a) Write a note on site-directed mutagenesis. 8

(b) Describe electroporation and lipofection. 7

4. Write a note on transgenic animals. 15

Or

(a) Describe physical mapping of genome. 8

(b) Write use of transposons in genetic analysis. 7

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(2)

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5. Write short notes on (any *three*) :

15

- (a) DNA ligase
- (b) Cosmids
- (c) Gel retardation technique
- (d) Microinjection
- (e) Biological containments.

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