

Model Question Paper
Botany-Biotechnology-Part-I
12th Standard

Biology

Reg.No. :

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- I. Answer all the questions.
- II. Use blue pen only.
- III. Question number 18 is compulsory.

Time : 01:00:00 Hrs

Total Marks : 75

5 x 1 = 5

Part-A

- 1) Restriction enzymes are synthesized by
(a) bacteria only (b) yeast and bacteria only (c) eukaryotic cells only (d) all kinds of cells
- 2) Each restriction enzyme cleaves a molecule only at
(a) the ends of genes (b) methyl groups (c) nucleotide sequence (d) the time of DNA replication
- 3) One of the following process is employed to introduce a foreign gene into a cell
(a) electrolysis (b) electroporation (c) plasmid (d) ligation
- 4) The number of transgenic plants available to-day are approximately
(a) six (b) two (c) twelve (d) fifty
- 5) A toxic protein called delta endotoxin is insecticidal and it is produced by
(a) Escherichia coli (b) Streptomyces griseus (c) Bacillus thuringiensis (d) Bacillus lactii

Part-B

- 6) Define recombinant DNA.
- 7) Name the enzymes involved in the making of a DNA hybrid.
- 8) What are restriction endonucleases?
- 9) What is the importance of Escherichia coli in biotechnology?
- 10) What is the role of restriction enzymes in bacteria?

5 x 3 = 15

Part-C

- 11) What is a cloning vector? Why are they necessary?
- 12) Give an illustrated account of gene cloning.
- 13) What is the role of Agrobacterium for gene transfer in plants?
- 14) How is DNA cut? (or) Describe the action of Restriction enzyme with diagrams.
- 15) What is the role of transgenic plants in food industry?

5 x 5 = 25

Part-D

- 16) Write an essay on DNA recombinant technology.
- 17) What is the role of Bt toxin in crop protection against pest? Explain the action of biopesticide.
- 18) a) Write an essay on transgenic plants.

3 x 10 = 30

(OR)

- b) Write an essay on plant tissue culture.
