

(Printed Pages 4)

(2)

(b) The first recombinant DNA molecule was synthesized in the year _____

(c) Which of the plant growth regulators are produced by TDNA?

(d) Which hormone control ripening in tomatoes?

(e) Which plant is first Transgenic plant?

(f) The transfer of genes from one cell to another by a bacteriophage is known as _____

(g) Which organism consists of single-stranded DNA?

(h) What is proteome?

(i) What is bioinformatics?

(j) Who is the father of biostatistics?

2. Answer the following short answer type questions: 2×5

(a) What do you mean by cDNA library?

(b) What is transgenic plant?

(c) What is Bacterial transformation?

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(544) M.Sc. Botany (Fourth Semester)

Examination, June-2024

Compulsory/Optional

Paper - III

Genetic Engineering of Plant and
Microbes and Biostatistics

Time : Three Hours |

/Maximum Marks : 80

Note : Answer from both sections as directed. The figures in the right-hand margin indicate marks.

Section-A

1. Answer the following objective type questions: $1 \times 10 = 10$

(a) Who developed the chemical techniques to synthesize polynucleotides?

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(Turn Over)

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(Continued)

(3)

(d) What do you mean by molecular marker?
(e) Explain the Chi-square test.

Section-B

Answer the following descriptive type questions.

15×4

3. Describe the DNA finger printing.

OR

Write short notes on the following:

(a) Polymerase Chain Reaction (PCR)
(b) DNA synthesis
4. Explain the transposon mediated gene tagging. <https://www.abvonline.com>

OR

Write short notes on the following:

(a) Chloroplast transformation and its utility.
(b) Aims for development of transgenic plant.

(4)

5. Describe the nitrogen fixer's fermentation technology.

OR

Write short notes on the following:

(a) Benefits of genetic improvement
(b) Genetic manipulation in plant cell
6. Describe the artificial chromosome.

OR

Write short notes on the following :

(a) DNA sequencing
(b) Standard error with examples

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