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Note:-

1. All Questions are compulsory.
2. Numbers on the right indicate full marks.

Section A

Q.1 Select and write the correct answer.

(4)

1. Texmati is a _____ variety of genetically modified crop.
A) wheat B) rice
C) cotton D) potato
2. Insertion of vector into bacterial cell is called _____.
A) transduction B) transfection
C) transformation D) transcription
3. Cry gene occurs in _____.
A) Rhizobium B) Bacillus thuringiensis
C) E. coli D) Pseudomonas
4. The enzyme nuclease hydrolyses _____ of polynucleotide chain of DNA.
A) hydrogen bonds B) phosphodiester bonds
C) glycosidic bonds D) peptide bonds

Q.2 Answer the following.

(3)

1. Which bacterium causes flu?
2. What is ssDNA?
3. What are transgenic animals?

Section B
Attempt any Four

- Q.3 How iron deficiency is overcome by transgenic plants? **(2)**
- Q.4 Giving one example, explain allergies caused in humans due to biotechnology. **(2)**
- Q.5 What is patent? **(2)**
- Q.6 Give a list of proteins produced by transgenic plants. **(2)**
- Q.7 Expand the following acronyms which are used in the field of biotechnology. **(2)**
(a) YAC (b) RE (c) dNTP (d) PCR (e) GMO (f) MAC
- Q.8 What role is played in healthcare biotechnology? **(2)**

Section C
Attempt any Two

- Q.9 For whom was the Haldi patent granted? What was the confusion regarding it? **(3)**
- Q.10 What is flavor saver tomato? **(3)**

Q.11 How are the transgenic mice used in cancer research? (3)

Section D
Attempt any One

Q.12 Define and explain the term: Bioethics (4)

Q.13 Explain the gene therapy. Give two types of it. (4)