

- Note :-**
- 1) All questions are compulsory.
 - 2) Figures to right indicate marks.
 - 3) Draw diagrams wherever necessary.

Q. 1 Answer the following. (Any 2)

10 M. ea

- A) What is cell culture. Give requirements for growth of cells in culture.
- B) Describe different types of Culture Media.
- C) What is vector? Give properties of vectors. Add note on 'plasmid as cloning vector.'
- D) Write note on - Gene library and DNA labeling.

Q. 2 Answer the following. (Any 2)

10 M. c

- A) With help of diagram explain genetic engineering in plants using Ti plasmid.
- B) What is Bt toxin? Write note on uses of Bt toxin.
- C) Define Bioinformatics. Write scope of bioinformatics.
- D) Write note on Human genome project.

Q. 3 Answer the following. (Any 2)

10 M

- A) Describe natural selection with two examples.
- B) Define speciation. Explain Allopatric speciation with examples.
- C) Write note on Ploidy, Euploidy, Aneuploidy.
- D) Explain sources of variation

Q. 4 Answer the following. (any 3)

5

- A) DNA Ligase
- B) pBR322
- C) Mutation
- D) Recombination
- E) MALDI
- F) FASTA

— The End —