

Duration : 2 1/2 hours

Total marks:60

- 1) All questions are compulsory
- 2) Figure to the right indicates full marks
- 3) Draw diagrams wherever necessary

Q.No: 1 Elaborate on (any two)

- a. Maxam and Gillbert method of DNA Sequencing (06)
- b. Polymerase Chain reaction and its advantages (06)
- c. pBR 322 as general purpose plasmid vector (06)
- d. Pulsed field Gel electrophoresis (06)

Q.No: 2 Describe the following in detail (any two)

- a. Isolation of functional promoters in prokaryotes. (06)
- b. Gene expression from strong and regulatable promoters in prokaryotes. (06)
- c. Increasing protein stability in prokaryotes. (06)
- d. Unidirectional tandem gene arrays in prokaryotes. (06)

Q.No: 3 Give an account: (any two)

- a. Biomedical genome research (06)
- b. Satellite DNA and its types (06)
- c. EST's with reference to DNA profiling (06)
- d. Pharmacogenomics (06)

Q.No: 4 Explain in brief (any two)

- a. Targeted gene replacement for correcting a mutated gene. (06)
- b. Embryo transfer in conservation biology (06)
- c. Antibody engineering (06)
- d. Recombinant DNA technology to prevent animal diseases. (06)

Q.No:5 Write notes ( any four)

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|---|------|
| a. Method of Physical mapping                     | (03) |
| b. Yeast Artificial chromosome                    | (03) |
| c. Fusion proteins.                               | (03) |
| d. Promoter selection with pBR316.                | (03) |
| e. Application of computer in biological sciences | (03) |
| f. Random amplified polymorphic DNA (RAPD)        | (03) |
| g. Tissue engineering for pancreas.               | (03) |
| h. Sheep and goat as biopharmaceuticals.          | (03) |

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