

[Time: - 2½ Hours]

[Marks: 75]

Please check whether you have got the right question paper.

- N.B:
1. All questions are compulsory.
 2. All questions carry equal marks.
 3. Draw neat & labelled diagram wherever necessary.
 4. Questions should be answered in order.

- Describe the following: 07
- a) Flask culture 07
- OR 08
- a) Somatic cell fusion and its applications. 08
- b) How will you sterilize the equipment and the component of culture medium? 08
- OR 08
- b) Give a brief account of different applications of monoclonal antibodies in basic studies. 08
- OR 07
- Explain the following: 07
- a) Polymerase chain Reaction (PCR). 07
- OR 08
- a) Characteristics and nomenclature of Restriction enzymes. 08
- b) Plasmid as a vector. 08
- OR 08
- b) Primary and secondary data base. 07
3. Describe the following: 07
- a) Human genome project. 07
- OR 08
- a) Down's syndrome. 08
- b) Klinefelter's syndrome. 08
- OR 08
- b) Polyploidy. 07
4. Explain the following: 07
- a) Albinism. 07
- OR 08
- a) Diabetes mellitus. 08
- b) Nucleotide sequence divergence. 08
- OR 08
- b) Molecular marker analysis.

TURN OVER

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5. Write short notes on:

a) Growth factors in cell culture.

OR

a) Blood serum as culture medium.

b) Any one clonal strategy.

OR

b) Sequence search tools.

c) Trisomy 18 syndrome.

OR

c) Ring chromosomes.

d) Variants of G6PD.

OR

d) Phylogenetic analysis.