

[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.

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

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5. Write short notes on:
a) Growth factors in cell culture.

04

OR

- a) Blood serum as culture medium.
b) Any one clonal strategy.

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OR

- b) Sequence search tools.
c) Trisomy 18 syndrome.

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OR

- c) Ring chromosomes.
d) Variants of G6PD.

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OR

- d) Phylogenetic analysis.

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