

QP Code : **75269**

(3 Hours)

[Total Marks : 100

- N. B. :** (1) All questions are **compulsory**.
(2) All questions carry **equal** marks.
(3) Draw neat and labelled diagrams wherever necessary.
(3) Questions should be answered in order.

1. Explain the following:

- (a) Griffith's transformation experiment.

OR

- (a) Theta (θ) mode of replication in bacteriophage.
(b) Role of DNA methylation.

OR

- (b) Excision repair mechanism.

2. Describe the following:

- (a) PCR

OR

- (a) Application of fingerprinting in forensic science.
(b) Primary and secondary databases.

OR

- (b) Preparation of cells for culture.

3. Describe the following:

- (a) Trisomy 18 and Klinefelter's syndrome.

OR

- (a) Deletions and duplications with examples.
(b) Amino acid sequence divergence in proteins.

OR

- (b) Diabetes mellitus.

4. Discuss the following:

- (a) Dose response relationship.

OR

- (a) Caffeine and nicotine.
(b) Absorption of toxicants through gastrointestinal tract.

OR

- (b) Types of liver injuries.

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5. Write short notes on:

- (a) Unidirectional replication.
- (b) Types of restriction enzymes.
- (c) Maternal PKU.
- (d) Cosmetics.

OR

- (a) Bidirectional replication.
 - (b) Protein databases.
 - (c) DNA hybridisation.
 - (d) Venom of honey bee.
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