

BIOCHEMISTRY

PAPER – IV

Time : 3 hours
Max. Marks : 100

BIO/D/17/03/IV

Important instructions:

- Attempt all questions in order.
- Each question carries 10 marks.
- Read the question carefully and answer to the point neatly and legibly.
- Do not leave any blank pages between two answers.
- Indicate the question number correctly for the answer in the margin space.
- Answer all the parts of a single question together.
- Start the answer to a question on a fresh page or leave adequate space between two answers.
- Draw table/diagrams/flowcharts wherever appropriate.

Write short notes on:

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| 1. | Types of stem cells and their therapeutic potential. | 10 |
| 2. | What is gene therapy? How does it work? Explain gene transfer vehicles. | 2+4+4 |
| 3. | High Pressure /Performance Liquid Chromatography (HPLC) and its advantages. | 6+4 |
| 4. | Molecular cloning and its applications. | 6+4 |
| 5. | Compare and contrast methods /applications of Radio Immunoassay and enzyme linked immunoassay. | 10 |
| 6. | a) DNA fingerprinting
b) RT-PCR (Reverse Transcriptase – Polymerase Chain Reaction) | 5+5 |
| 7. | a) Flow cytometry
b) Mass spectrometry | 5+5 |
| 8. | a) SnRNAs
b) Micro RNAs | 5+5 |
| 9. | a) HIV vaccine
b) Anti-obesity vaccine | 5+5 |
| 10. | a) Micro array technique
b) Antisense therapy | 5+5 |
