

**BIOCHEMISTRY**

**PAPER-IV**

Time: 3 hours  
Max. Marks: 100

BCHEM/D/19/03/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:**

1. What are Homogeneous Enzyme Immunoassay and Heterogeneous Enzyme Immunoassay? And briefly explain about their applications. 7+3
2. Describe Therapeutic Drug Monitoring in detail. What is therapeutic window and its use? 7+3
3. What are the biochemical investigations for assessment of copper toxicity? Add a note on Wilson's disease. 5+5
4. Describe the Mass spectrometry Technique and its applications. 6+4
5. What are indications for Total Parenteral Nutrition (TPN)? Briefly discuss intravenous nutrition and its monitoring. 4+(4+2)
6. Explain Automation in clinical biochemistry laboratory and describe how does quality control is maintained. Add a note on atomic absorption spectrometry. 6+4
7. Discuss Immuno Electrophoresis with a suitable diagram. What are its applications? 6+4
8. Describe Bioinformatics. How does data of "Severe combined Immunodeficiency Death Syndrome" (SCID) can be obtained and used for analysis? Explain. 6+4
9. Enumerate the applications of Nanotechnology. What is Hybrid Technology? 5+5
10. What are the diagnostic decision chart for the investigation of Hirsutism? Mention the disorders of male sex hormone. 5+5

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