

**BIOCHEMISTRY**

**PAPER-I**

Time: 3 hours  
Max. Marks:100

BCHEM/D/19/03/I

**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. a) Iso-electric focusing. 5+5  
b) Polyacrylamide Gel Electrophoresis.
2. Give the norms of the lymphoid tissues distributed throughout the body. 4+6  
Explain how macrophages amplify a local inflammatory response.
3. Biochemical changes/findings on investigation of blood and urine in: 2.5x4  
a) Addison's disease.  
b) Cushing's syndrome.  
c) Essential primary Aldosteronism.  
d) Pheochromocytoma.
4. Describe Paper chromatography with its applications. How is TLC (Thin 6+4  
Layer Chromatography) Technique superior to paper chromatography?
5. List various liver tests performed in blood and urine in clinical biochemistry 6+4  
laboratories. Explain how these tests help in differentiating in the diagnosis  
of Hepatocellular Jaundice and Obstructive Jaundice.
6. a) Radio Immunoassay. 5+5  
b) Is RIA superior to spectrophotometry in analysis of blood hormones  
and vitamins, if so how? Explain.
7. Explain viral etiology of cancer with examples. Add a note on blood and 4+6  
urinary protein or enzymes useful for the diagnosis of cancer.
8. Describe the biochemical tests used for assessment of glomerular and 6+4  
tubular functions. How does Cystatin-C help in this assessment?
9. Discuss tests used to estimate increased risk of cardiovascular disease. 6+4  
Explain the importance of troponin estimation in diagnosis of acute  
myocardial infarction.
10. Give therapeutic applications of radioisotopes and diagnostic applications 5+5  
of radioisotopes.

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