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**25-BC-43**

**M.Sc. IV SEMESTER [MAIN/ATKT] EXAMINATION  
MAY - JUNE 2025**

**BIOCHEMISTRY**  
Paper - III  
**[Applied Clinical Biochemistry]**

*[Max. Marks : 75]*

*[Time : 3:00 Hrs.]*

*[Min. Marks : 26]*

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**Note :** Candidate should write his/her Roll Number at the prescribed space on the question paper.  
Student should not write anything on question paper.  
Attempt all five questions. Each question carries an internal choice.  
Each question carries **15 marks**.

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**Q. 1** Describe chemistry and mode of action of Semisynthetic Penicillin and Streptomycin.

**OR**

Write note on -

- i) Fluid and electrolyte balance.
- ii) Respiratory Acidosis.

**Q. 2** Explain with reasoning -

- i) Abnormal Galactose metabolism.
- ii) Glucose tolerance test and its interpretation.

**OR**

Write notes on -

- i) Hypoglycemia.
- ii) Ketone bodies.
- iii) Apolipoproteins.

**Q. 3** How liver function is evaluated by different biochemical tests ?

**OR**

Write note on -

- i) Fatty liver
- ii) Vanden Bergh test and its chemical significance.

P.T.O.

**Q. 4** How is enzyme activity in serum useful for differential diagnosis of diseases?

**OR**

Write note on -

- i) Heme Catabolism.
- ii) Porphyrrias.
- iii) Conjugation reactions of detoxification.

**Q. 5** Write notes on **any three** -

- i) Physical factors promoting carcinogenesis
- ii) Generation of free radicals in biological system
- iii) Characteristics of Cancerous cells.
- iv) Role of vitamins as antioxidants.
- v) Biochemical changes in malignant cell.

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