

QP CODE: 211020

Reg. No:

**Second Year B.Sc Medical Biochemistry Degree Regular/Supplementary
Examinations December 2025
Paper VI - Metabolism 1**

(Carbohydrate, Lipid & Amino Acid Metabolism)

(2016 Scheme)

Time: 3 hrs

Max Marks: 100

- *Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers*
- *Indicate the question number correctly for the answer in the margin space*
- *Answer all parts of a single question together • Leave sufficient space between answers*
- *Draw table/diagrams/flow charts wherever necessary*

Long Essays

(2x15=30)

1. Illustrate the events involved in beta oxidation. Compare it with omega oxidation.
2. Describe the mechanism of oxidative phosphorylation. Give an account of its inhibitors

Short Essays

(2x10=20)

3. Explain HMP pathway and its significance. What happens during Glucose 6 phosphate deficiency
4. Explain how ammonia is detoxified in body. What are types of urea cycle disorders

Short Answer

(6x5=30)

5. Explain how the irreversible steps in glycolysis are overcome during gluconeogenesis
6. Glycogen storage diseases
7. Metabolic and clinical significance of transaminases
8. Why pyruvate is converted to lactate in muscle cell. Explain Cori's cycle
9. Illustrate the Decarboxylation reactions of TCA cycle and its significance
10. Consider Acetyl CoA as a metabolic junction and illustrate its routes of formation and utilisation

Comment on

(10x2=20)

11. Significance of glyoxylate cycle
12. Gibbs free energy
13. High energy compounds
14. Maple Syrup Urine Disease (MSUD)
15. Malate shuttle
16. Allosteric control of HMG CoA reductase
17. Fatty acid synthase complex
18. Von Gierke's disease
19. Reaction of amino acids with aldehydes
20. Chemiosmotic theory
