

# 2019 Scheme

Q.P. Code: 115001

Reg. no.: .....

**First Professional MBBS Degree Regular/Supplementary Examinations  
November 2023**

**Biochemistry - Paper I**

**Time: 3 Hours**

**Total 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. A 2-year-old child presented with complaints of on and off vomiting and lethargy for past two months. On examination child had a massive liver enlargement. Blood investigation reports were as follows: Blood sugar: 50mg%, Uric acid:10mg%, lactic acid:15mg%, Total cholesterol:300mg%. Liver biopsy demonstrated the mosaic pattern of enlarged hepatocytes, exhibiting abundant clear cytoplasm containing glycogen and lipid vacuoles.
  - a) What is the diagnosis
  - b) Name other glycogen storage disorders
  - c) Explain how glycogen is metabolized in the body
  - d) Explain the hormonal regulation of glycogen metabolism

(1+3+7+4)
2.
  - a) Define and classify enzymes giving one example each.
  - b) Enumerate the factors affecting enzyme activity
  - c) Describe the different types of enzyme inhibition with appropriate examples

(4+4+7)

## **Short essays**

**(5x8=40)**

3. Describe the denovosynthesis of fatty acid. Add a note its regulation 

(6+2)
4. Describe the steps of catabolism of phenyl alanine and tyrosine. Add a note on inborn errors associated with them 

(5+3)
5. Outline the pathway of heme synthesis. Mention its regulation 

(5+3)
6. Define oxidative phosphorylation. Explain the chemiosmotic theory 

(2+6)
7. Explain how proteins are digested and absorbed in the body 

(4+4)

## **Short answers**

**(5x4=20)**

8. Protein energy malnutrition
9. Mitochondria
10. Explain the transport of dietary lipids from intestine
11. Biochemical functions of vitamin A
12. Folate trap

## **Give Precise Answers**

**(10x1=10)**

13. NADPH generating steps in HMP shunt pathway
14. Name the neurotransmitters formed from Tryptophan
15. False positive benedict's test
16. Reference interval of following in plasma a) urea b) creatinine
17. Define Mutarotation
18. Enzyme defect in a) Maple Syrup Urine Disease b) Hereditary Fructose Intolerance
19. Regulatory enzyme in cholesterol synthesis
20. Name two enzymes that require pyridoxine as coenzyme
21. Name ketone bodies
22. Mention two semi essential amino acids

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