

# 2019 Scheme

Q.P. Code: 115001

Reg. no.: .....

## First Professional MBBS Degree Supplementary (SAY) Examinations January 2024 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 liver enlargement and complaints of weakness, sweating and pallor which disappeared on eating food. Mother revealed that milestones were delayed. On investigation, blood glucose: 50 mg/dL, uric acid: 10 mg/dL, lactic acid: 15 mg/dL, cholesterol: 300 mg/dL, and presence of ketone bodies.
  - a) What is the likely diagnosis
  - b) Name the enzyme defect
  - c) Discuss the pathways that lead to elevated levels of uric acid, lactic acid, and cholesterol
  - d) Discuss the reason for liver enlargement
  - e) Give the normal reference range for serum cholesterol and Fasting Blood glucose

(1+1+9+2+2)
2. Discuss vitamin D under the following headings a) source b) daily requirements c) metabolism d) biochemical functions e) deficiency manifestations

(1+2+4+4+4)  
(5x8=40)

### Short essays

3. Explain the steps of  $\beta$ -oxidation of palmitic acid, giving energetics. (7+1)
4. Describe the steps by which catecholamines are synthesized. Outline the pathway of their degradation. (5+3)
5. How are dietary triglycerides absorbed and transported in plasma. Briefly explain the transport of dietary triglyceride from intestine to liver. (2+3+3)
6. What are the different types of enzyme inhibition. Explain with suitable examples.
7. Discuss the biochemical alterations seen in blood and urine in different types of jaundice. (4+4)

(5x4=20)

### Short answers

8. Transamination
9. Fluid mosaic model
10. Dietary fiber
11. Homocystinuria
12. Chemiosmotic theory

(10x1=10)

### Give Precise Answers

13. Why is heat coagulation irreversible
14. Sucrose is a non-reducing sugar. Why
15. Give two examples of high energy compounds
16. Differentiate between cis and trans fatty acids
17. Which tissues prefer anaerobic glycolysis
18. Name the neuro transmitters formed from tryptophan
19. Name the limiting amino acids in (a) Pulses (b) Cereals
20. Homogentisic acid is excreted in urine in \_\_\_\_\_
21. Name the enzyme defect in acute intermittent porphyria
22. Newborns, especially premature infants, have relative vitamin K deficiency. Why

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