2019 Scheme

Q.P. Code: 115001 **Reg. no.: .....**

First Professional MBBS Degree Regular/Supplementary Examinations
February 2022
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 45-year-old bank manager visits the OPD with increased frequency of urination (Polyuria), Increased thirst (Polydypsia) and increased hunger (Polyphagia). He also gives the history of weight loss. On general examination, there were no significant findings. The laboratory investigations were as follows:

Test	Result	Units	Biological Reference Interval
Random blood Glucose	316	mg/dl	70 - 140
Urine sugar	+ + + +		NIL

Answer the following questions using the above data:
- What is the diagnosis.
- Mention various methods for estimation of glucose
- What are WHO criteria for diagnosis of this disorder
- Why urine sugar was positive in this patient
- Describe the various factors that regulate blood glucose level (1+2+2+2+8)

2. Write IUMB classification of enzymes with examples and describe the factors affecting the enzyme activity. (7+8)

Short essays **(5x8=40)**

3. Sources, RDA and biochemical functions of vitamin D (2+1+5)
4. Describe the structural organization of proteins (2+2+2+2)
5. Define obesity. What are the metabolic changes and complications of obesity (2+4+2)
6. Discuss the metabolism of chylomicrons
7. Classify phospholipids and enumerate their functions (4+4)

Short answers **(5x4=20)**

8. Ribosomes
9. Acute intermittent porphyria
10. Molecular basis and diagnosis of sickle cell anemia
11. Name the ketone bodies and describe their synthesis
12. Enumerate the clinical significance of HMP pathway

Give Precise Answers **(10x1=10)**

13. Mention two high energy compounds
14. Mention two derivatives of cholesterol
15. What is HbA1c. What is its significance
16. Mention two sulphur containing amino acids
17. Give two examples for complete protein
18. Mention two lipotropic factors
19. Enzyme defect in galactosemia.
20. Name the semi essential amino acids.
21. Give biological reference range for serum triglycerides
22. Give biological reference range for serum albumin

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