

Time : 3 Hrs.

[Max. Marks : 100]

BIOCHEMISTRY

Q.P Code : RS -105

Your answers should be specific to the questions asked.

Draw neat labeled diagrams wherever necessary.

LONG ESSAY (Answer any 2 only)

2 X 10 = 20 Marks

1. Describe in detail about the pathway of glycogenolysis. Add a note on the regulation of glycogen metabolism.
2. Write in detail about the biosynthesis, biochemical functions, RDA, deficiency manifestations of vitamin D3. Add a note on hypervitaminosis D.
3. Describe in detail about the primary, secondary, tertiary and quaternary structure of proteins with suitable example.

SHORT ESSAY (Answer any 10 only)

10 X 5 = 50 Marks

4. Facilitated transport.
5. Polymerase chain reaction.
6. Vitamin K cycle.
7. Describe the β -oxidation of palmitic acid with its bioenergetics.
8. Renal mechanism in regulation of acid base balance.
9. Digestion and absorption of iron.
10. Competitive inhibition of enzyme and its application.
11. ELISA-enzyme linked immunosorbent assay.
12. Xeroderma pigmentosum.
13. What is porphyria? Classify porphyria and mention their clinical and biochemical findings.
14. Ketogenesis.
15. Watson and Crick's model of structure of DNA.

SHORT ANSWERS (No Choices)

10 X 3 = 30 Marks

16. Histones.
17. What is isoelectric pH and give its significance.
18. Name the enzymes elevated in acute myocardial infarction.
19. Biochemical defect and clinical findings in alkaptonuria.
20. Marker enzymes for the following subcellular organelles:
i) Lysosomes ii) Mitochondria iii) Endoplasmic reticulum
21. Types of RNA and their biological role.
22. Give three examples for post translational modification of protein synthesis.
23. Give reference interval for the following parameters:
i) Blood urea ii) Serum creatinine iii) Serum uric acid
24. What are oncogenes? Give two examples.
25. What is specific dynamic action (SDA)? Give SDA for carbohydrates, proteins and fats.