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**St. Joseph's college f Arts & Science (Autonomous)**  
**St. Joseph's College Road, Cuddalore – 607001**  
**ABC101-BASIC BIOCHEMISTRY**

**Time : 3 hrs**

**Max Marks :75**

**SECTION – A (25X1=25)**

**Answer ALL the questions**

**I choose the best answer: (10X1=10)**

- What is the specific optical rotation of glucose when attains an equilibrium
  - 56
  - 53.5
  - 52.5
  - 119
- $\alpha$  and  $\beta$  forms are called
  - enantiomers
  - epimers
  - anomers
  - stereomers
- Linoleic acid contains
  - No double bonds
  - 1 double bond
  - 2 double bond
  - 3 double bond
- Unsaturated fatty acid contains
  - only single bond
  - only double bond
  - triple bond
  - a and b
- The number of mg of KOH required to hydrolyze 1 gm of fat is known as
  - Iodine number
  - saponification number
  - Reichert-Meissl number
  - Acid number
- Back bone of DNA is formed by
  - Peptide bond
  - glycosidic bond
  - hydrogen bond
  - phosphodiester bond
- Number of amino acid in each turn of  $\alpha$ -helix in protein
  - 3.6
  - 4
  - 3.8
  - 3.2

8. The following nucleotide is not present in DNA  
a) Adenine      b) Guanine      c) Thymine      d) uracil
9. Cholesterol is  
a) Simple lipid      b) compound lipid      c) derived lipid      d) fatty acid
10. Sugar present in RNA  
a) Arabinose      b) ribulose      c) deoxyribose      d) ribose

**II Say true or false (5X1=5)**

11. Coagulation of protein takes place in neutral pH
12. Glucose and fructose form same osazone
13. Flocculation is reversible
14. No phosphate group in nucleosides
15. Biuret test is answered by compound containing peptide bond

**III Answer all the questions (10X1=10)**

16. What are epimers?
17. What are essential amino acids?
18. What are amino sugars?
19. What is isoelectric pH?
20. Name any two ketogenic amino acids
21. Mention any two uses of bile salt?
22. Name the components of starch?
23. What are compound lipids?
24. What is coagulation?
25. What is annealing?

**SECTION -B (4X5=20)**

**Answer any FOUR of the following**

26. Discuss the structure of two biochemically important polysaccharides?
27. Write an account of classification of lipids with suitable examples?
28. Discuss the forces that determine folding, conformation and structural organization of proteins?
29. Write an account of structure, function and nomenclature of nucleotide?
30. Give the biological importance of phospholipids?
31. Write a note on steroids?

**SECTION –C (3X10=30)**

**Answer any THREE of the following:**

32. Define and classify fatty acids with suitable example and explain the biological importance of lipids?
33. Describe the structural organization of protein?
34. Classify protein on the bases of chemical structure and solubility
35. Describe the Watson and Crick model of DNA?
36. Describe the denaturation and annealing of DNA in Detail

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