

**D.K.M.COLLEGE FOR WOMEN (AUTONOMOUS), VELLORE-1.**

**BIOCHEMISTRY**

**SECTION-A      2 MARKS**

1. Write any three physical properties of water?
2. Define pH?
3. Define buffer?
4. Define acid?
5. Define base?
6. Define amitotic fluid?
7. Define electrolyte?
8. Write any three function of cerebra spinal fluid?
9. Define osmolarity?
10. Define osmolality?
11. Define carbohydrates?
12. Define Monosaccharides?
13. Define disaccharides?
14. What are aldoses & ketoses?
15. What is called homopolysaccharides & heteropolysaccharides?
16. Define asymmetric carbon?
17. Define stereoisomerism?
18. Define racemic mixture?
19. Define enantiomers?
20. What is called epimers?
21. Define mutarotation?
22. Define amino acids?
23. Define nucleic acid?
24. Define lipid?
25. What is called nucleotide?
26. Define DNA?
27. Define RNA?

28. Define phospholipids?
29. Define glycolipids?
30. What is called lipoprotein?
31. Define neutral lipids?
32. Define fatty acid?
33. What is called as essential fatty acids?
34. Define saponification?
35. Define rancidity?
36. Define iodine number?
37. Define glucophospholipids?
38. What is called sphingomyelins?
39. What is called steroids?
40. Define cholesterol?
41. Define emulsions?
42. Define glycolysis?
43. Define TCA cycle?
44. Define HMP shunt?
45. What called oxidative phosphorylation?
46. Define transamination?
47. Define non-oxidative deamination?
48. Define photosynthesis?
49. Define oxidative deamination?
50. Define Bioenergetics
51. Define free energy
52. Define enthalpy
53. Define entropy
54. Define enzyme
55. Define isoenzyme and co enzyme
56. Define exergonic reaction
57. Define endergonic reaction
58. Define Katal
59. Define enzyme specificity
60. Define vitamins

61. What are water soluble vitamins?
62. What are fat soluble vitamins?
63. Write the sources of vitamin A and D.
64. What are the deficiencies of Vitamin E and K.
65. Write any three function of Vitamin C.
66. Write the sources of Vitamin B6 and B12.

**SECTION-B            5 MARKS**

1. Illustrate the structure of water molecule?
2. Briefly explain about Henderson – Hassel balch equation?
3. Write short notes on phosphate buffer system?
4. Write about biological importance of buffers?
5. Give short notes on colostrums?
6. Write short note on metabolic acidosis?
7. Discuss about the biological importance of water?
8. Define carbohydrate and how they are classified with suitable example?
9. Difference between reducing and non-reducing sugar?
10. Write short note on osazone formation?
11. Give an account on mutarotation?
12. Give a short note on sucrose?
13. Write short note essential amino acids?
14. Briefly explain about quaternary structure of protein?
15. Write short notes on globular protein?
16. Give short notes on conjugated protein?
17. Write the chemical properties of amino acids?
18. Discuss about the classification of amino acids based on their polarity?
19. Write short notes essential fatty acids with suitable examples?
20. Write an account of classification of lipids with examples?
21. Illustrate the structure and function of phospholipids?
22. Give short note on glycolipids?
23. Write short notes about triglycerols?
24. Illustrate the structure of nucleotides?
25. Give short notes on tautomerism?

26. Illustrate the structure of tRNA?
27. Brief short notes on TCA cycle?
28. Give a short note on oxidative phosphorylation?
29. Write short note on non-oxidative deamination?
30. Briefly explain about mechanism of photosynthesis?
31. Write about laws of thermodynamics
32. Give short notes on redox potential
33. Define enzyme. How they are classified?
34. Write about the chemical nature and properties of enzymes
35. Explain – Lineweaver- Burk plot
36. Give a short notes on Co-enzymes
37. Write about enzyme substrate complex.
38. Write briefly about the functions of vitamin A.
39. Give a short note on vitamin k.
40. Write about riboflavin.
41. Discuss about the functions of cobalamin.
42. Illustrate the chemistry of biotin.

### **SECTION-C**

**10 MARKS**

1. Discuss about interactions in aqueous solution?
2. Explain body fluid –Milk?
3. Explain structure of water molecule and its physical properties?
4. Describe the role of blood buffers in the acid base balance?
5. Discuss about the regulation of electrolyte balance?
6. Define carbohydrate? How they are classified and explain with suitable example?
7. What are called homopolysaccharides? Briefly explain about starch?
8. Describe how the primary structure of protein can be determined?
9. Discuss about the classification of amino acids with suitable examples?
10. Describe the classification of proteins?
11. Explain secondary structure of proteins?
12. Write an account of structure, function of nomenclature of nucleotides?
13. Describe the structure of functions of phospholipids?

14. Illustrate the structure of cholesterol and write its function?
15. Discuss about triglycerols and its properties?
16. Explain structure of DNA?
17. Define RNA and discuss about different types of RNA?
18. Explain glycolysis?
19. Discuss about pentose phosphate pathway?
20. Explain beta oxidation of fatty acids?
21. Discuss about oxidative deamination?
22. Describe transamination?
23. What are the factors affecting enzyme activity
24. Explain mechanism of enzyme action.
25. Discuss about the sources, functions and deficiencies of vitamin A.
26. Explain in detail about Niacin.
27. Give an account on Ascorbic acid.
28. Discuss about the sources, functions and deficiencies of vitamin D.
29. Explain in detail about Thiamine.

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