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

I B.Sc Biochemistry

SEMESTER – II: MAJOR PAPER

Title of the paper: BIOORGANIC CHEMISTRY

Subject Code : 15CBC2A

SECTION-A 2 MARKS

1. What is Mutarotation?
2. Write the difference between reducing and non reducing sugars.
3. Define carbohydrates.
4. What are Oligosaccharides?
5. What are Disaccharides?
6. Define hemiacetal formation of sugars.
7. Define invert sugars.
8. Add a note on oxidation of sugars.
9. Write short notes on reduction of sugars.
10. What are Polysaccharides?
11. Define amino acids.
12. Explain Isoelectric point.
13. Define Isoelectric pH.
14. Define Zwitter ion.
15. Draw the structure of amino acid.
16. Define protein.
17. What are the elemental composition of proteins.
18. What are fibrous proteins.
19. Explain globular proteins.
20. What are simple proteins.
21. Define conjugated proteins.
22. Define phosphor proteins.
23. Define peptones.

24. What are genetic proteins.
25. What is salting in.
26. What is salting out.
27. Define Denaturation.
28. What are all the agents that cause denaturation.
29. Add a note on formation of peptide bond.
30. What are the four levels of protein structure.
31. Define lipids.
32. What are Homolipids?
33. Define lipoproteins.
34. What are waxes?
35. Explain phospholipids.
36. Define Sphingomylins.
37. Define steroids.
38. What are essential fatty acids?
39. Define saturated fatty acids.
40. Define Saponification.
41. What is emulsification?
42. Define rancidity.
43. Explain acid number.
44. Define iodine number.
45. What is RM number?
46. Define bile acids.
47. What are the functions of bile acids?
48. Explain functions of lipids.
49. Explain fatty acids.
50. Explain unsaturated fatty acids.
51. What is PUFA? Give Example
52. Define nucleic acid.
53. What are nucleoside.
54. Define nucleotides.

55. What are polynucleotide.
56. What is Erwin Chargaff's rule?
57. Define DNA.
58. Define RNA.
59. Define replication.
60. Explain central dogma.
61. Define translation.
62. What are the types of mRNA?
63. What are the types of RNA?
64. Define coding region.
65. Define non coding-region.
66. Write briefly on Tm value.

SECTION-B 5 MARKS

1. Write the occurrence, structure and biological importance of Lactose.
2. Write the structure of monosaccharide.
3. Explain the Osazone formation of glucose.
4. Explain the osazone formation of fructose
5. Discuss starch hydrolysis.
6. Write short note on Mutation.
7. Describe the structure and biological importance of Sucrose.
8. Describe the structure of Starch.
9. Explain the structure of cellulose.
10. Give an account on Disaccharides.
11. What are aliphatic amino acid.
12. Draw the structure of hydroxyl amino acid.
13. Define acidic amino acids.
14. Draw the structure of heterocyclic amino acids.
15. What is iminoacids.
16. Write the name of neutral amino acids.
17. Define basic amino acids.

18. What are essential amino acids.
19. Write names of non essential amino acids.
20. Define insulin.
21. Explain the physical properties of amino acids.
22. Write the chemical properties of amino acid?
23. Explain the structure and classification of amino acid based on their composition.
24. Describe classification of amino acids based on acidic and basic property of amino acids.
25. How amino acids are classified based on their different characteristics feature.
26. Explain in detail about fibrous and globular proteins.
27. How proteins are classified based on composition and solubility.
28. Describe Derived proteins.
29. How proteins are classified based on their biological functions.
30. Explain the nutritional classification of proteins.
31. Explain salting in and salting out of proteins.
32. Describe physical properties of proteins.
33. Explain denaturation with example?
34. Write short note on renaturation of proteins.
35. Write short note on peptide bond.
36. Explain vasopressin.
37. Explain glutathione.
38. Write the biological importance of insulin and vasopressin.
39. Explain in detail about fatty acids.
40. Describe derived lipids.
41. Write short notes on phospho lipids.
42. Write short note on physical properties of lipids.
43. Write any three physical properties of lipids.
44. Explain bile acids.
45. Explain polymorphism.

46. Write in detail about properties of DNA.
47. Explain denaturation of DNA.
48. Explain different form of DNA?
49. Differentiate between DNA and RNA.

SECTION-C 10 Marks

1. Write in detail about Classification of Carbohydrates.
2. Explain in detail about osazone formation of Monosaccharide.
3. Describe Disaccharides with example ?
4. Discuss about Polysaccharides.
5. Discuss the structure of Starch.
6. Write in detail about classification of amino acid.
7. Explain in detail about properties of amino acids.
8. Describe in detail about chemical properties of amioacids.
9. Explain in detail about classification of proteins.
10. Write in detail about the structure of proteins.
11. Explain in detail about biological important peptides.
12. Explain in detail about classification of lipids.
13. Write in detail about chemical properties of lipids.
14. Write in detail about fatty acids.
15. Differentiate between DNA and RNA.
16. Write in detail about the types of RNA.