ST. JOSEPH'S COLLEGE OF ARTS & SCIENCE (AUTONOMOUS

CUDDALORE – 607001

DEPARTMENT OF BIOCHEMISTRY

Subject: Nutritional Biochemistry

Class: I B.Sc

Subject Code: BC204S

Staff Incharge: Dr. R.Ramakrishnan & Mr. J.John Robert

SECTION-A

ANSWER IN ONE SENTENCE

1. Define food and Nutrition.
2. What is mean by limiting amino acid?
3. Brief the term Basel metabolic rate.
4. What are single cell proteins?
5. What are vitamins?
6. What is mean by balanced diet?
7. Brief the term Respiratory Quotient.
8. Define Calorie.
9. What are essential amino acids?
10. Expand the term NPU.
11. Reason why egg is considered as complete protein?
12. Brief the term Kwashiorkor.
13. Give the source of vitamin K.
14. Write a note on Marasmus.
15. Name the metal present in chlorophyll.
16. What are coenzymes?
17. Differentiate coenzymes and cofactors.

18. Write the structure of selenocysteine.
19. Give the normal level of sodium in blood?
20. How will you differentiate Kwashiorkor and Marasmus.
21. Mention any two physiological role of sodium.
22. Write the coenzyme of vitamin thiamin.
23. Write the source of folic acid.
24. Brief the term rickets.
25. Write the role of vitamin K.
26. Give the biologically active form of niacin.
27. Expand the terms FMN and FAD.
28. Write any two biological functions of Molybdenum.
29. Give the functions of vitamin E.
30. Name the vitamin contains thiazole ring in its structure.
31. Write the deficiency caused by vitamin C.
32. Give the sign and symptoms of Beri-Beri.
33. Brie the term ferritin.
34. Name the vitamin which is produced in our body.
35. Mention the copper transport protein present in blood.
36. Expand the term RDA.
37. Write the deficiency manifestation of vitamin E.
38. Brief the term hyperthyroidism.
39. Define SDA.
40. Give the percentage of protein present in SCP.

SECTION-B

41. Write notes on biological value of proteins.
42. Discuss the classification of proteins based on the nutritional requirements.
43. Brief the functions of proteins.
44. Give an account on endogenous and fecal nitrogen.

45. How will you measure the biological value of proteins?
46. Explain the types of food groups based of the biological function.
47. Give an account on specific dynamic action of food.
48. Discuss the measurement of BMR.
49. Write the balanced nutrition for pregnant women.
50. Note the merits and demerits of SCP.
51. Write notes on protein energy malnutrition.
52. Mention the biological importance of selenium.
53. Write notes on protein Calorie malnutrition.
54. Outline the classifications of vitamins.
55. Relate the RQ with different food types.
56. Discuss the detection method digestibility co-efficient.
57. Explain the determination of NPU.
58. Quote any five proteins and its BV, DC and NPU values.
59. Give an account on single cell proteins.
60. Quote the functions of iodine.
61. Mention the significance of digestibility co-efficient.

SECTION – C

62. Discuss the determination of energy value of foods using bomb calorimeter.
63. Elaborate the detection of biological value of proteins.
64. Explain the factors responsible for BMR.
65. Write the source, RDA, deficiency and functions of vitamin A.
66. Explain the physiological role and nutritional significance of phosphorous.
67. Give the source, recommended dietary allowance, deficiency and functions of vitamin D.
68. Sketch the physiological role and nutritional significance of copper.
69. Give an account on water soluble vitamins.
70. Explain the physiological role and nutritional significance of iodine.
71. Write the source, RDA, deficiency and functions of vitamin E.
72. Give the physiological role and nutritional significance of iron.

73. Explain the structure and functions of fat soluble vitamins.
74. Discuss the blood calcium homeostasis in detail.
75. Discuss the source, daily requirement, deficiency and functions of vitamin K.
76. Brief the physiological role and nutritional significance of molybdenum.
77. Write the source, dietary requirement, deficiency and functions of vitamin B_1.
78. Give the physiological role and nutritional significance of magnesium.
79. Give the source, nutritional requirement, deficiency and functions of vitamin B2.
80. Explain the physiological role and nutritional significance of zinc.
81. Write the source, RDA, deficiency and functions of vitamin B5.
82. Explain the physiological role and nutritional significance of sodium and calcium.
83. Discuss the source, structure and functions of vitamin B6.
84. Write the physiological role and nutritional significance of potassium.
85. Explain the chemistry and functions of vitamin B9.
86. Explain the composition and RDA of balanced diet.
87. Write the source, daily requirement, deficiency and functions of vitamin B12.
88. Explain the physiological role and nutritional significance of selenium.
89. Give the source, RDA, deficiency and functions of vitamin C.
90. Explain the physiological role and nutritional significance of sodium.
91. List-out the nutritional requirement during pregnancy and lactating women.
92. Write the physiological role and nutritional significance of fluorine.
93. Differentiate the nutritional requirements during the adults and old age.
94. Explain the nutritional requirements in infants, children and adolescence period.
95. Explain the physiological functions of sodium and potassium.
96. Discuss the biological functions of the trace element present in thyroid hormones.

SUBJECT: NUTRITIONAL BIOCHEMISTRY

SUB CODE: BC204S

SUB INCHARGE: SHIFT I & SHIFT II (J.JOHN ROBERT, R.RAMA KRISHNAN)

SECTION-A

Answer One mark questions

1. What is respiratory quotient?
2. What is calorific value of foods?
3. Define NPU.
4. What are essential amino acids?
5. Rickets
6. Beri-Beri
7. Fluorosis
8. What is hyponatremia?
9. Expand RDA.
10. What is niacin equivalent?
11. BMR
12. SDA
13. RQ
14. SCP
15. RDA
16. What is balanced diet?
17. What is scurvy?
18. Give one functions of vitamin B1
19. Cretinism is due to the deficiency of ----------
20. The limiting amino acid in cereals is----------
21. Which element is mostly used for enzyme activation?
22. Which vitamin activity is lost on heating?
23. Hyponatremia is a condition where the serum _____level is below normal.
24. Which trace element is essential for the formation of thyroid hormone?
25. BMR is measured using _____
26. Which element acts as secondary messenger for hormones?
27. Proteins have the SDA of ----------
28. Energy expenditure of a person can be measured by ----------
29. What is the principal cation of intracellular fluid?
30. Iron is a component of ----------
31. What is the richest source of copper?
32. BV
33. PER
34. What is meant by a balanced diet?
35. Name any four sources of vitamin A
36. What causes Wilson's disease?
37. Give two examples each of body building and energy yielding foods.
38. Which vitamin deficiency causes pernicious anemia?

39. Define Basic metabolic rate.
40. Define protein.
41. What are the essential amino acids?
42. Define carbohydrates.
43. What are the fat soluble vitamins?
44. Bring out the deficiency of vitamin E.
45. What are minerals?
46. Nutritional polysaccharides are----------
47. The general formula of carbohydrate is.
48. The inorganic nutrients are
49. A polysaccharide indigestible by man is----------
50. Starch is an example of----------

SECTION- B
Answer five mark questions

51. Give an account on Specific dynamic action of foods.
52. Write briefly on protein sparing action of carbohydrates.
53. What is Kwashiorkor? Write its complications.
54. Discuss the physiological importance of calcium.
55. Explain the importance of vitamin B6.
56. Bring out the physiological changes in ageing
57. What are the factors influencing BMR? Explain.
58. Write a note on Marasmus.
59. Explain the physiological significance of vitamin c.
60. Explain different types of food groups?
61. Give the physiological and nutritional significance of calcium.
62. List out the functions of vitamin C?
63. Write the physiological functions of calcium and sodium.
64. Comment on the nutritional requirements of infants and adolescents

SECTION-C
Answer ten mark questions

65. How will you measure BMR? Discuss the various factors affecting it.
66. Give a detailed note on biological value of proteins.
67. Explain the sources, physiological functions and deficiency manifestation of vitamin A.
68. Describe the biochemical functions and deficiency manifestation of Iron.
69. Explain the nutritional requirements of infants
70. How do you measure energy of food stuffs using bomb colorimeter?
71. Give a detailed note on biological value of proteins.
72. Explain the sources, functions& deficiency of vitamin A.

73. Give the nutritional requirements for children.
74. Explain the physiological & nutritional significance of Iodine.
75. Write an essay on the causes, prevention and management of protein calorie malnutrition condition.
76. Describe the physiological role and nutritional significance of any four essential trace elements.
77. What are the different methods used in the nutritional evaluation of proteins.