



LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

M.Sc. DEGREE EXAMINATION – FOOD CHEMISTRY AND FOOD PROCESSING

SECOND SEMESTER – APRIL 2018

17/16PFP2MC02- HUMAN NUTRITION AND BIOCHEMISTRY

Date: 19-04-2018
Time: 01:00-04:00

Dept. No.

Max. : 100 Marks

Part A

Answer ALL the questions.

(10x2=20) marks

1. Calculate the BMR of Suresh weighing 72 kg.
2. Mention the three stages of adulthood and give the significance of young adulthood.
3. List the different stages of life cycle giving the ages in years.
4. What are complementary proteins? Give a suitable example.
5. Differentiate 'picky eaters' and 'food jags'.
6. Mention the role of Ouabain and Valinomycin in Electron transfer reactions.
7. What is meant by reactive hypoglycemia?
8. Comment the significance of pentose phosphate pathway.
9. Distinguish the role of Glycogen synthase and glycogen phosphorylase.
10. Mention the role of Vitamin D in Ca and P regulation.

Part B

Answer ANY EIGHT questions.

(8x5=40) marks

11. Explain the role of FoF1 ATPase pump.
12. Enumerate Gluconeogenesis.
13. Explain the significance of the following cycles.
i) Urea cycle ii) TCA Cycle
14. Describe the possible ways of generation of anaerobic glycolytic reactions.
15. Write a detailed note on RNA Polymerase complex.
16. Comment on the functions of lipoproteins
17. Calculate the Total Energy Output of Suresh who weighs 145lbs and measures 179 cm, who consumes an average of 2000 Kcal per day and is a stone cutter in a construction company.
18. Briefly discuss the two methods measuring human energy expenditure using calorimetry.
19. Explain the four major factors affecting BMR.
20. Diagrammatically represent the journey of Vitamin D from its source to the destination.
21. Write a brief note on the advantages of human milk for neonates.
22. Briefly explain the nutritional needs of school going children.

Part C

Answer ANY FOUR questions.

(4 x 10 = 40) marks

23. Write a detailed account of complexes involved in energy generation.
24. Explain the suitable pathway that primarily gets operated inside the cytosol after high carbohydrate diet.
25. i) Discuss glycogen metabolism. (5 marks)
ii) Explain the role of P, A and E sites in Prokaryotic translation process.
26. What is malnutrition? (2 marks)
Give a brief account of kwashiorkor (6 marks)
As a food technologist what measures can you suggest to overcome malnutrition? (2 marks)
27. What are the three energy systems our body utilizes to release energy? (4 marks)
Discuss the anaerobic systems of energy in detail. (6 marks)
28. Explain the digestion of fat with an aid of suitable flowchart. (7 marks)
Illustrate diagrammatically a micelle and a chylomicron formed in the process. (3 marks)

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