



LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

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

SECOND SEMESTER – APRIL 2019

16/17/18PFP2MC02– HUMAN NUTRITION AND BIOCHEMISTRY

Date: 05-04-2019

Dept. No.

Max. : 100 Marks

Time: 01:00-04:00

Part A

Answer ALL the questions.

(10x2=20)

1. Calculate the BMR of Ashok aged 52 years weighing 130 pounds and measuring 165 cm in height.
2. Differentiate 'picky eaters' and 'food jags'.
3. What is Phosphagen system of energy expenditure?
4. Give the classification of carbohydrates citing suitable examples.
5. List any four methods of evaluating protein quality.
6. In electron transfer, only the quinone portion of ubiquinone undergoes oxidation-reduction; the isoprenoid side chain remains unchanged. What is the function of this chain?
7. Define glycogenesis.
8. Mention the role of Transamination reactions in protein metabolism.
9. List the key regulatory enzymes in Glycolysis, with its functions.
10. Differentiate simple diffusion and Antiport system of solute transport.

Part B

Answer any EIGHT questions.

(8x5=40)

11. Calculate the TDEE for Mr. Anand aged 45 years weighing 152 pounds and measuring 168 cm. He consumes on an average 2200 Kcal per day. He has started and maintains a moderate physical exercise program. Evaluate his BMI and energy balance.
12. Explain the significance of complementary proteins in diet. Give a suitable example.
13. What is Basal Metabolic Rate? Briefly explain the four major factors influencing the Basal Metabolic Rate of an individual.
14. Classify the different stages of adulthood and give their significance.
15. What is a life cycle? Write a note on the different stages of life cycle.
16. Write a brief note on neural tube defects in infants.
17. When you are fed with a high carbohydrate diet, there would be an enhanced availability of NADH and FADH₂ to trigger electron transport chain. Justify the statement. If so what would be the fate of excess ATP in mitochondria?
18. Discuss oxidative phosphorylation.
19. Describe HMP shunt with its significance.
20. Enumerate the structures of DNA and RNA, with its base pair rules.
21. Explain Urea cycle with its regulation.
22. Write a note on prokaryotic transcription process.

Part C

Answer any FOUR questions.

(4x 10=40)

23. Discuss the journey of Vitamin D from the source to the destination.
24. Give a detailed account on the eating disorders encountered during adolescence. Suggest measures to overcome the disorders.

25. Explain the digestion of lipids. What is the role of fat in our body?
26. Discuss the Electron transport chain in detail.
27. Describe the reactions of Glycolysis with its regulation.
28. Write a detailed note on Prokaryotic Replication process.
