



LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

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

SECOND SEMESTER – APRIL 2017

16PFP2MC02- HUMAN NUTRITION AND BIOCHEMISTRY

Date: 21-04-2017
Time: 01:00-04:00

Dept. No.

Max. : 100 Marks

Part A

Answer all the questions.

10 x 2 = 20 marks

1. Mention any four factors that affect food choices in individuals.
2. What is the role of placenta in childbirth?
3. Give the significance of zymogens with suitable examples.
4. Calculate the BMI for the following individuals
 - a. Geetha weighing 78 kg and measuring 165 cm
 - b. Nitish weighing 140 pounds measuring 1.3 m
5. Mention the role of FMN and FAD in electron transferring process.
6. State the different ways of membrane transport process in biological membranes with an example on each.
7. Write a note on helicase and DNA polymerase III in DNA replication process.
8. What are purines and pyrimidines? How are they involved in nucleotides makeup?
9. Differentiate glycogenesis and gluconeogenesis.
10. Comment on the significance of urea cycle.

Part B

Answer any eight questions.

8 x 5 = 40 marks

11. Give a brief account on the additional nutritional requirements during pregnancy.
12. Jamie aged 34 years weighs 68 kg and is 157 cm tall. She eats on an average of 1800 Kcal and does moderate activity at home. Calculate her Total Energy Output (TDEE) and evaluate her energy balance.
13. What is the role of Food Guide pyramid? Illustrate My Plate concept with a regional meal for lunch
14. Write a short note on childhood obesity.
15. Illustrate the digestion of carbohydrates in our system.
16. Explain the policy framed by WHO for the aging population in a country.
17. Write a note on oxidative phosphorylation.
18. Explain uncouplers of electron transport chain with suitable examples.
19. Discuss the transamination process in amino acids metabolism.
20. Enumerate Hexose Mono Phosphate shunt.
21. Describe the role of LDL and HDL in cholesterol regulation.
22. Enumerate the Na⁺/K⁺ ATPase pump across the biological membrane.

Part C

Answer any four questions.

4 x 10 =40 marks

23. Enumerate the nutritional and ecological significance of human milk.
24. Discuss the digestion of dietary fat in our system.
25. Explain in detail any two forms of human energy system.
26. Explain in detail the process of electron transport chain with its regulation.
27. Describe the DNA replication process in prokaryotes.
28. Write a detailed note on various steps involved in cholesterol biosynthesis.

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