

**LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034**



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

**SECOND SEMESTER – NOVEMBER 2016**

**FP 2807 – FOOD BIOCHEMISTRY**

Date: 10-11-2016

Dept. No.

Max. : 100 Marks

Time: 01:00-04:00

**Part A**

**Answer ALL the questions.**

**(10 x 2=20) marks**

1. What is the function of isoprenoid side chain present in ubiquinone in electron transfer reactions?
2. Define Transamination
3. Mention the yield of high energy phosphate in Glycolysis and TCA cycle.
4. Define gluconeogenesis.
5. List any two functions of amino acids.
6. What is the difference between simple and facilitated diffusion?
7. Mention the functions of helicases and single stranded binding protein in DNA replication process.
8. Name the enzymes present in the fatty acid synthase complex.
9. What is the role of carnitine shuttle in fatty acid metabolism?
10. Classify fatty acids. Mention any two functions of essential fatty acids.

**Part B**

**Answer ANY EIGHT questions.**

**(8 x 5 =40) marks**

11. Explain complex II of electron transport chain.
12. Describe glycogenesis with its regulation.
13. Write a note on oxidative phosphorylation.
14. Describe the method of determining molecular weight of proteins through SDS PAGE.
15. Describe the prokaryotic replication process.
16. Explain active transport process phenomena in membrane transport.
17. Enumerate the decarboxylation reactions in amino acids.
18. Write a note on protein denaturation.
19. i) What are adrenal medullary hormones?  
ii) Structurally represent synthesis of epinephrine.
20. Give a brief account on the regulation of cholesterol synthesis.
21. i) What is Phenylketonuria?  
ii) Explain the sequence of reactions highlighting the zone of blockage in phenylketonuria.
22. Explain the bioenergetics of Palmitic acid oxidation.

**Part C**

**Answer ANY FOUR questions. Each carries TEN marks**

**(4 x 10 = 40) marks**

23. Explain glycolysis with its regulation.
24. Discuss electron transport chain with its schematic representation.
25. Explain TCA cycle with its regulation.
26. Explain Urea cycle with its regulation.
27. Discuss in detail the synthesis of squalene and conversion of squalene to cholesterol.
28. Enumerate the sequence of reactions in the hormonal regulation of water balance in our system.

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