



LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

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

FIRST SEMESTER – NOVEMBER 2017

FP 1806 - ORGANIC CHEMISTRY OF FOOD - I

Date: 07-11-2017
Time: 01:00-04:00

Dept. No.

Max. : 100 Marks

Part A

Answer **ALL** questions:

(10X2=20) marks

1. What are asymmetric and dissymmetric molecules?
2. Write any two important applications of pectin in food industries.
3. Mention any four biological methods used to evaluate nutritive value of protein.
4. What are phospholipids? Give an example.
5. What is meant by synergism in lipid?
6. How does polymorphism occur in lipid ?
7. Mention any four factors affecting the concentration of enzymes in food.
8. Draw the structure of vitamin A.
9. Write any three factors affecting the stability of vitamins in food.
10. What is meant by plastein reaction in protein?

Part – B

Answer **ANY EIGHT** questions:

(8 X 5 = 40) marks

11. How will you determine the amount of reducing sugar by Somoyogi –Nelson method ?
12. Describe the importance of algin and gum – arabic in food industries.
13. Write short notes on auto oxidation reaction of lipids.
14. How will you determine total starch in pectin by enzymatic method?
15. Discuss the competitive and uncompetitive inhibition reaction in enzymes.
16. Describe the role of enzymes in the production of sweeteners.
17. Explain the mechanism for the mode of degradation of vitamin D.
18. How do the enzymes affect the flavour and aroma of food?
19. Describe the mechanism for the reaction of antioxidants on lipids.
20. How will you determine the amount of protein by Biuret method?
21. How does the enzymatic hydrolysis reaction modify the structure of protein?
22. Describe the procedure for determining the saponification value of lipids.

Part – C

Answer **ANY FOUR** questions

(4 X 10 = 40) Marks

23. a. Write a note on mutarotation of carbohydrates .
b. Describe the mechanism of Maillard – Browning reaction of carbohydrates. (4+6)
24. a. Discuss various factors influencing the consistency of lipids.
b. Explain the mechanism for the conversion of alcohol to aldehyde using enzymes. (5+5)
25. a. Discuss the secondary and tertiary structural analysis of proteins.
b. How does the protein load method determine the emulsifying property of protein? (6+4)
26. a. How will you determine the amount of protein by Ninhydrin method?
b. Write a note on sulphitolysis reaction of protein. (6+4)
27. Describe in detail the role of various endogenous enzymes in determining the color and texture of food.
28. How will you determine the amount of riboflavin by fluorescence method.

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