LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

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

FIRST SEMESTER – NOVEMBER 2016

FP 1806 - ORGANIC CHEMISTRY OF FOOD - I

Date: 02-11-2016 Dept. No. Max. : 100 Marks
Time: 01:00-04:00

Part A

Answer all the questions. 10 x 2 =20 marks

1. What are asymmetric and dissymmetric centre in organic molecules?
2. Mention the application of Xanthan gums in food industries.
3. What are compound lipids? Give an example.
4. Define Polanski value of lipids.
5. Mention any four factors affecting the stability of proteins.
6. How will you estimate the protein nutritive value by microbial method?
7. What are metallo enzymes? Give an example.
8. Define isoelectric point.
9. Draw the structure of vitamin A.
10. What are fat soluble vitamins?

Part B

Answer any eight questions. 8x5=40 marks

11. Describe the non-enzymatic browning reaction of carbohydrates.
12. How will you determine the total amount of reducing sugar present in carbohydrate by Somoyogi Nelson method?
13. Describe the advantages of modified starch in food industries.
14. Write a note on synergism in lipids.
15. Describe the classification of edible fats.
16. Discuss the analysis of protein by Kjeldhal method.
17. Explain any two methods involved in the emulsification of proteins.
18. Describe various factors affecting the concentration of enzymes in food.
19. Discuss the role of enzymes in the modification of lipids.
20. How will you determine the amount of riboflavin by fluorescence method?
21. Explain the primary and secondary structure of proteins.
22. Write a note on competitive inhibition in enzyme reactions.

Part C

Answer any four questions. 4x 10=40 marks

23. a) Write a note on hydrolysis of polysaccharides. (5)
    b) Describe the role of pectin and carrageenans in food industries. (5)
24. Explain the various factors influencing the consistency of commercial fats.
25. a)Write a note on thermal non-oxidable reactions of saturated fats.
    b) Explain any three biological methods used to determine the protein nutritive value.
26. Write the principle of IR spectroscopic technique. Explain its application in the analysis of protein.
27. a) How will you determine the rate of enzyme catalysed reaction using Michael-Menton equation?
    b) What are irreversible inhibitors in enzyme catalysed reaction?
28. What are water soluble vitamins? Describe the structure and degradation mechanism of water soluble vitamins.

****