



LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

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

SECOND SEMESTER – APRIL 2018

17PFP2MC01- FOOD CHEMISTRY - II

Date: 17-04-2018
Time: 01:00-04:00

Dept. No.

Max. : 100 Marks

Part A

Answer all the questions.

10 x 2 = 20 marks

1. Define the following i) Restoration ii) Nitrification.
2. Mention the role of Benzoic acid as a class II Preservative.
3. What are acidulants?
4. Define sequestrants.
5. What are surface active agents?
6. Draw the structure of Betalains.
7. Tabulate any two differences between stabilizers and emulsifiers.
8. Draw the structure of Piperine and Gingerol.
9. Mention the various types of enzymes involved in shikimic acid path way.
10. Write any four general characteristics of aspartame as a non-nutritive sweetener.

Part B

Answer any eight questions.

8 x 5 = 40 marks

11. Write a note on stability and degradation pattern of pro vitamin A.
12. Explain the mechanism of action of Vitamin C as a natural sequestrant.
13. Explain the following i) Tocopherol ii) Lipoic acid.
14. Enumerate the role of antibiotics in surface inhibition.
15. Explain the technology involved in preserving chlorophyll containing pigments.
16. What are food additives? List out the various types of food additives with an example for each type.
17. Write any three important physical properties and two applications of polyols in food industries.
18. Define flavors. Describe the three important functions of flavors in food.
19. Discuss the role of volatile terpenoids as flavoring compounds.
20. Describe the biosynthesis of chocolate, meat and fish food flavours.
21. Explain the general extraction steps adopted in curcumins extraction.
22. Discuss Lowry- Bronsted acid base theory.

Part C

Answer any four questions.

4 x 10 = 40 marks

23. Write a detailed note on the stability and the mechanism of degradation of Vitamin E and Vitamin K.

24. Explain the chemical and functional properties of Calcium, Phosphate in foods.

25. i) Differentiate natural and synthetic colors with suitable examples. (4+6)

ii) Explain the steps involved in calculating the permissible limits of added colors in foods.

26. i) List out the various compounds responsible for astringency and umami flavor in food.

ii) Define starter cultures. Mention any five factors affecting its function in food. (6+4)

27.i) Write a note on class II preservatives, Explain the mechanism of action of nitrate salts in meat processing.

ii) Describe the advantages, disadvantages and general characteristics of any three nutritive sweeteners. (6+4)

28. Describe in detail the various structural modalities responsible for sweet, bitter, sour, and salty taste in food.

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