LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

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

SECOND SEMESTER – APRIL 2017

16PFP2MC01- FOOD CHEMISTRY - II

Date: 19-04-2017 Dept. No. Max. : 100 Marks
Time: 01:00-04:00

Part A

Answer all the questions. **(10 x 2 =20 marks)**

1. What are acidulants and humectants? Give an example for each type.
2. Mention the various factors affecting the choice of anti-oxidants.
3. What is meant by homeostasis?
4. Give reason for the deficiency of iron in human though its presence is abundant in the environment.
5. What is meant by modified atmosphere packaging? Mention its importance.
6. Tabulate the differences between natural and synthetic colors in food.
7. Structurally differentiate sucralose and sucrose.
8. What is noot katone? Which category of flavors does it belong to?
9. Differentiate low calorific and non calorific sweetener with an example on each.
10. What are pH control agents? Mention its applications in food processing industries.

Part B

Answer any eight questions. **(8 x 5= 40 marks)**

11. How does the parabens and anti biotics act as a preservative in food?
12. What are anti-oxidants? Describe the role of vitamin C as an anti-oxidant.
13. Write a note on allomerization of chlorophyll.
14. Draw the structure of myoglobin and explain the causes for the discoloration of meat.
15. Describe the bio chemical properties of calcium in food.
16. Write the sources, functions and degradation mechanism of vitamin E.
17. How will you evaluate the effect of anti-oxidants in muscle food?
18. Describe the biosynthesis of fish food flavors.
19. Explain the nutritional requirements of yeast cells in contributing gas retention effect on dough.
20. Discuss the metabolism of aspartame in the intestinal lumen.
21. Write a note on flavors generated from ethanolic fermentation.
22. Enumerate on permitted emulsifiers and stabilizers in food industries.

Part C

Answer any four questions. **(4 x 10 =40 marks)**

23. a) What are chelates? Describe the various factors affecting the stability of chelates.
    b) Write a note on toxicity of vitamins. **(6+4)**
24. a) Describe the role of nitrites and nitrates as a preservative in food.
    b) Write the importance of regulations in food additives. **(6+4)**
25. Explain in detail any four technological methods used in the preservation of color in food.

26. Discuss the biosynthesis of tomato flavor generation in thermally processed formulation.
27. a) Write a detailed note on bitterness compounds present in food. **(5+5)**
    b) Structurally represent the flavor compound responsible for stimulating a distinct Umami taste among the perceivers.
28. Discuss the physical and chemical properties of the following with an example.
    a) Food acids **(5+5)**
    b) Polyols.

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