



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

**U.G. DEGREE EXAMINATION – ALLIED**

**FOURTH SEMESTER – APRIL 2022**

**UCH 4403 – FOOD CHEMISTRY**

Date: 27-06-2022

Dept. No.

Max. : 100 Marks

Time: 09:00 AM - 12:00 NOON

**PART-A**

*Answer ALL the questions*

**(10 x 2 = 20)**

1. Define Macronutrients with suitable examples.
2. Give the applications polysaccharides in food industry.
3. What are Anti-oxidants? Give the structure of vitamin-C.
4. What is the importance of recommended dietary allowances?
5. Mention the different types of food additives.
6. What is saccharin?
7. List down the limitations of synthetic colorants.
8. Write the pigments present in animals and plants.
9. What is contamination?
10. Write the specification and standards of BIS.

**PART-B**

*Answer any EIGHT questions.*

**(8 x 5 = 40)**

11. What are Xanthan gums? Give their functions and applications in detail.
12. Explain the mechanism of Maillard reaction.
13. Briefly discuss the effect of blanching, microwaving and steaming on vegetables.
14. Describe the functions and bioavailability of vitamin-C and E.
15. Explain in detail differences between nutritive and non-nutritive sweeteners.
16. Write a short note on the chemical and functional properties of sulphites and nitrites.
17. Give in detail the factors affecting stability and the colour changing processes of myoglobin met-myoglobin and sulpha-myoglobin.
18. Discuss in detail the role of synthetic colorants in food industries.
19. What are flavor enhancers? Give the different types of flavoring agents.
20. Explain the contamination effect of pesticides and insecticides in foods.
21. Write a note on AGMARK and FSSAI.
22. Give the structure and functions of cyclamate and aspartame.

## PART-C

*Answer any FOUR questions.*

**(4 x 10 = 40)**

- 23a. What are pectin and pectinic acids? Explain in detail the sources, structure and their functions.
- b. Write a note on the following.  
(i) Denaturation of protein (ii) Wheat protein
24. What are the different types of preservatives? Explain their role in food industries.
- 25a. Explain in detail the natural and artificial flavoring agents
- b. Write short note on thermally induced flavors
- 26a. Discuss in detail the health effects of food adulterants.
- b. How will you detect and prevent the food adulterants.
27. Explain briefly the following quality control agencies role in food industry;  
(i) PFA (ii) FPO (iii) FDA
- 28a. Discuss in detail the dehydrated fruits and canned fruit juices.
- b. Write a note on packing and label requirements.

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