



LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

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

FIRST SEMESTER – NOVEMBER 2017

17PFP1MC02 - INTRODUCTION TO FOOD PROCESSING

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

Dept. No.

Max. : 100 Marks

Part A

Answer all the questions.

10 x 2 = 20 marks

1. Define freeze drying.
2. What are surfactants?
3. Distinguish between endothermic and exothermic reactions.
4. List the possible novel techniques adopted in food preservation.
5. Distinguish between blanching and sterilization.
6. Mention the changes during thawing and its effect on food.
7. Mention the significance of evaporation as an important unit operation tool in food industries.
8. Mention the significance of foods attaining its T_g (glass transition temperature limits).
9. Mention the various types of papers used in food packaging.
10. Define intelligent packaging and state examples.

Part B

Answer any eight questions.

8 x 5 = 40 marks

11. Explain the significance of H , G and S with respect to exothermic and endothermic reactions.
12. Explain Kirchhoff's equation for calculating equilibrium constants.
13. Describe the standard reduction potential (E^0) values of foods.
14. Write a note on eutectic point.
15. Enumerate slow and rapid or quick freezing process with respect to thawing of foods.
16. Write a note on possible steps to minimize chemical changes of foods during freezing.
17. Explain the principles of high pressure processing.
18. Highlight the importance of food labeling while designing a new product.
19. Enumerate the types of food additives employed in processing and preservation of foods.
20. Bring out the general needs of food packaging materials.
21. Write short notes on biodegradable polymers.
22. Explain the process of metal reception and write the uses of metals in food packaging.

Part C

Answer any four questions.

4 x 10 = 40 marks

23. Explain food as a dispersed system. Existence of such dispersed state has some important consequences, prove with suitable examples.
24. i) Write a detailed note on HTST (high temperature short time) and ESL (extended shelf life processing).
ii) Explain the retort pouch packaging technique highlighting the pioneering work of DRDO using this technology.
25. Write a detailed note on freezing curve and highlight the advantages of preserving foods by low temperature.
26. Discuss the following non thermal processing methods adopted under novel food processing techniques.
 - i) High pressure processing
 - ii) Pulsed electric field technology.
27. Describe the role of MAP in food packaging
28. Write a detailed note on various techniques adopted to treat municipal solid waste.

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