



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

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

FIRST SEMESTER – NOVEMBER 2016

**16PFP1MC02 - INTRODUCTION TO FOOD PROCESSING**

Date: 04-11-2016  
Time: 01:00-04:00

Dept. No.

Max. : 100 Marks

**Part A**

**Answer all the questions.**

**10 x 2 =20 marks**

1. Mention the various size reduction methods employed in solid and liquid foods during processing
2. Define contact angle
3. What is critical micelle concentration? How does it affect HLB value?
4. Mention the available processing and preservation methods which involve heat treatment. What is their effect on thermophilic organisms?
5. Define product mix.
6. List the functions of chemical preservatives in food.
7. Mention any four microorganisms exploited for their beneficial role in food industry.
8. Name the causes of food product failure.
9. What is hurdle technology?
10. Name any four form fill seal packaging.

**Part B**

**Answer any eight questions.**

**8x5=40 marks**

11. Write a note on interfacial tension and interfacial rheology
12. Describe emulsification techniques as one of the unit operations in liquid foods.
13. Explain the following
  - a) Fluid statistics (2.5 marks)
  - b) Fluid dynamics (2.5 marks)
14. Describe the various factors which affect the rate of the reaction.
15. Write a note on freezing curve. Describe the possible changes occurring in foods during freezing.
16. Design a questionnaire to assess the knowledge and attitude of consumers on concept testing of organic products.
17. Explain the requirements for food product authorization for a startup venture.
18. Discuss the various fermentation technologies used in food industry.
19. Write short notes on active packaging.
20. Bring out the adoption and diffusion strategy of a new food product.
21. Explain the steps involved in producing metal cans for food packaging.
22. Discuss the various biodegradable polymers used in food industry.

**Part C**

**Answer any four questions.**

**4x 10=40 marks**

23. Discuss the following

i) Various reasons for processing foods. **(5marks)**

ii) Food gels **(5marks)**

24. Explain the following

i) The impact of retorting in ready to eat foods. **( 5marks)**

ii) Relate Arrhenius approach on the temperature effects of simple shelf life kinetics plot( **5marks**)

25. Describe the process considerations, benefits, and shortcomings of alternative non-thermal processing methods.

26. Explain the concept testing methodology adopted for designing and testing a new food product.

27. Bring out the various novel packaging methods and its implications in food industry.

28. Write short notes on the following      a) Curing                      b) Pickling                      c) Emulsions

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