



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

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

**FOURTH SEMESTER – APRIL 2017**

**FP 4807- FOOD PRODUCT DEVELOPMENT & PACKAGING TECHNIQUES**

Date: 25-04-2017  
Time: 09:00-12:00

Dept. No.

Max. : 100 Marks

**Part A**

**Answer ALL the questions.**

**10 x 2 = 20 marks**

1. State four reasons for undertaking new product development in a food enterprise.
2. Define product and positioning concept.
3. Mention any four problems encountered during the scale up process.
4. What are the parameters used to measure roll out success?
5. List the applications of hedonic rating test in food industry.
6. What are biodegradable polymers?
7. What are the layers of retort pouch?
8. What is sealing in closure?
9. List the advantages and disadvantages of using paper as a packaging material.
10. For packaging a fruit juice, which packaging material will you choose? Justify.

**Part B**

**Answer any EIGHT questions.**

**8 x 5 = 40 marks**

11. A cookie manufacturer's company profile is as follows :

- i.) production of butter and cashew cookies.
- ii.) available as 100, 200 and 250 g packs.
- iii.) manufactured and distributed only in Karnataka.
- iv.) sales turnover is declining for the past two years.

This manufacturer has recruited you as head of her New Product development division.

Discuss any five new product types that you will launch to improve the company's new business division.

12. Discuss the role of new product development in tapping traditional and unconventional food sources.
13. Describe any five concept testing approaches used for evaluating consumer response before introducing an idea to market.
14. Give the procedure for product development approval as given in FSSAI drafts regulations (2017) for Novel, Non-Specified Food and Novel Food Ingredients.
15. i.) Define protocept and prototype  
ii.) Elaborate on the formulation and ingredient selection process while developing a prototype.

16. What are the steps that can be used in controlling product failures at all stages of development?
17. Discuss the steps undertaken in training of descriptive type of panel members.
18. Write short notes on measurement scales used in sensory evaluation.
19. Bring out the importance of barcoding in food industry.
20. Briefly discuss about aseptic packaging. Mention its applications.
21. Discuss briefly the properties, advantages and disadvantages of using metal as a packaging material
22. Explain the concepts and applications of intelligent packaging in food industry.

### **Part C**

**Answer any FOUR questions.**

4x 10=40 marks

23. Elaborate on the various skills required for the formation of a new product development team in a food industry.
24. What are the stages associated with a new food product development process?
25. Describe in detail the objectives, procedure and design of sensory test methods.
26. Explain the various types of active packaging systems with suitable examples.
27. Write in detail the considerations for food packaging through examining the nature of food product, physical, climatic, and biological hazards.
28. Solid waste management requires the use of a hierarchical, integrated management approach for waste disposal. Comment.

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