

**PSG COLLEGE OF ARTS & SCIENCE  
(AUTONOMOUS)**

**BSc DEGREE EXAMINATION DECEMBER 2025  
(Fifth Semester)**

**Branch – NUTRITION, FOOD SERVICE MANAGEMENT & DIETETICS**

**MAJOR ELECTIVE COURSE – I : FOOD PRODUCT DEVELOPMENT & PACKAGING**

Time: Three Hours

Maximum: 75 Marks

**SECTION-A (10 Marks)**

Answer ALL questions

ALL questions carry EQUAL marks

(10 × 1 = 10)

Module No.	Question No.	Question	K Level	CO
1	1	Which of the following best describes the idea stage of product development? a) Testing the product in the market b) Generating and screening product concepts c) Standardizing the production process d) Packaging and labelling the product	K1	CO1
	2	Sensory evaluation is most important during which stage of product development? a) Idea generation stage                      b) Development stage c) Commercial stage                              d) Post-marketing stage	K2	CO1
2	3	The nutritional labelling on packaged food helps the consumer to: a) Compare nutrient content among products b) Identify the manufacturer only c) Increase the product's shelf life d) Improve taste and flavour	K1	CO2
	4	HACCP in food product development primarily ensures: a) Marketing efficiency b) Nutrient fortification c) Control of safety hazards during processing d) Attractive packaging	K2	CO2
3	5	Evaluation of a launched product focuses on: a) Market acceptance and consumer feedback b) Cost of raw materials c) Labelling design d) Microbial testing	K1	CO3
	6	IPR and patenting in food product development help in: a) Reducing packaging cost b) Protecting ownership and innovation rights c) Enhancing product flavour d) Controlling food spoilage	K2	CO3
4	7	Laminated packaging is mainly used because it: a) Reduces transportation cost b) Combines properties of multiple materials for better protection c) Allows air exchange to maintain freshness d) Adds weight to the package	K1	CO4
	8	Paperboard cartons are classified as: a) Flexible packaging                      b) Semi-rigid packaging c) Rigid packaging                              d) Modified atmosphere packaging	K2	CO4
5	9	Modified Atmosphere Packaging (MAP) helps to: a) Extend shelf-life by altering gas composition inside the package b) Change the colour of food products c) Increase oxygen levels for freshness d) Reduce the weight of the container	K1	CO5
	10	Edible packaging is considered sustainable because it: a) Uses non-biodegradable materials b) Can be consumed along with the food, reducing waste c) Requires heavy plastic coatings d) Increases the carbon footprint	K2	CO5

Cont...

**SECTION - B (35 Marks)**

Answer ALL questions

ALL questions carry EQUAL Marks

(5 × 7 = 35)

Module No.	Question No.	Question	K Level	CO
1	11.a.	Explain the stages of product development life cycle with examples.	K3	CO1
	(OR)			
	11.b.	Discuss factors affecting food product development and reasons for product failure or success.		
2	12.a.	Explain Hazard Analysis and Critical Control Points (HACCP) in product development management.	K3	CO2
	(OR)			
	12.b.	Describe the packaging and marketing process in food products.		
3	13.a.	Describe the steps involved in the product launch and evaluation.	K3	CO3
	(OR)			
	13.b.	Explain the role of marketing strategy in new food product commercialization.		
4	14.a.	Explain the uses of aluminum foil and paper in flexible food packaging.	K3	CO4
	(OR)			
	14.b.	Describe problems encountered in food packaging and possible solutions.		
5	15.a.	Describe the uses of glass containers and cans in food packaging.	K3	CO5
	(OR)			
	15.b.	Explain the environmental impacts of food packaging and ways to mitigate them.		

**SECTION -C (30 Marks)**

Answer ANY THREE questions

ALL questions carry EQUAL Marks

(3 × 10 = 30)

Module No.	Question No.	Question	K Level	CO
1	16	Explain the principles of food product development and describe the commercial stage challenges with examples.	K5	CO1
2	17	Discuss the importance of nutritional labeling in consumer decision-making and regulatory compliance, providing examples of how misleading labels can affect marketability.	K5	CO2
3	18	Analyze the importance of patenting in the food industry and its impact on innovation and competition.	K5	CO3
4	19	Evaluate the advantages and limitations of flexible packaging materials for perishable food products.	K4	CO4
5	20	Critically assess recent trends like edible packaging, active packaging, and RFID in enhancing food safety and sustainability.	K4	CO5