



CVM UNIVERSITY

Aegis: Charutar Vidya Mandal (Estd.1945)

FACULTY OF ENGINEERING & TECHNOLOGY

Effective from Academic Batch: 2022-23

Programme: Bachelor of Technology (Food Processing Technology)

Semester: V

Course Code: 202070503

Course Title: Food Product Design and Development

Course Group: Professional Core Course

Course Objectives: To understand the concept of development of a new product and prepare new products based on special dietary requirements, functionality, convenience and improvisation of existing foods.

Teaching & Examination Scheme:

Contact hours per week			Course Credits	Examination Marks (Maximum / Passing)				
Lecture	Tutorial	Practical		Theory		J/V/P*		Total
				Internal	External	Internal	External	
3	0	2	4	50/18	50/17	25/9	25/9	150/53

* J: Jury; V: Viva; P: Practical

Detailed Syllabus:

Sr.	Contents	Hours
1	Food Product Development Process: Stages/ Phases of New Product Development – idea generation, screening, feasibility studies, consumer research, financial review, product design and formulation	07
2	Process Development: Recipe development and scale-up, consumer trials, market testing Costing/ Pricing and Economic Evaluation of the Product, Product Launch, Product life cycle	06
3	Menu Planning: Explanation of terms, Food groups, Principles of planning menus, Steps involved in planning menus,	05
4	Infant Foods: Formulation of weaning foods, Protein energy malnutrition, formulating diet for preschool going (2-5 years) children.	07
5	Diets: During normal life cycle, Nutritional requirements from infancy to adolescence, Geriatric nutrition, Nutrition for athletes.	07



6	Therapeutic Diet: Types of therapeutic diet, Diet for diabetic mellitus, Diet for cardio vascular disease, Diet for gastro intestinal disease.	06
7	Functional Foods and Nutraceutical: Concepts for functional foods design, prebiotics & probiotics, nutraceuticals, designer foods.	07
	Total	45

List of Practicals / Tutorials:

1	Preparation of whey based fruit drink
2	Preparation of wheat flour based pizza
3	Preparation of multigrain snack for nutrition during pregnancy and lactation.
4	Preparation of fruit pudding for pre-school children.
5	Preparation of Banana based weaning food.
6	Design and preparation of a diet for athlete or sport person
7	Design and preparation of a diet for children suffering from Protein Energy Malnutrition
8	Preparation of low cost nutritious mid day meal.
9	Preparation of nutritious energy bar
10	Preparation of menu plan for diabetic patient (therapeutic diet)
11	Visit to Amul Mogar plant (Weaning Food Manufacturing Unit)

Reference Books:

1	Food Product Development by Marie Earle, Richard Earle and Allan Anderson, Woodhead Publishing
2	Food Product Development: from Concept to Marketplace by I. Sam Saguy and Earnest Graf, Springer
3	Handbook of Indigenous Fermented Foods' by K.H. Steinkrus, Marcel Dekkar.
4	Proceedings of Technical Session of IFCON-98' AFTS (I), CFTRI, Mysore.
5	Clinical dietetics and nutrition by FP Antia.

Supplementary learning Material:

1	Nutritive value of Indian Foods by Gopalan C, Ramshastri BV, Balasubramaniam SC. Nationa
2	Institute of Nutrition, Hyderabad.

Pedagogy:

- Direct classroom teaching
- Audio Visual presentations/demonstrations
- Assignments/Quiz
- Continuous assessment
- Interactive methods
- Industrial/ Field visits
- Course Projects



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Internal Evaluation:

The internal evaluation comprised of written exam (40% weightage) along with combination of various components such as Certification courses, Assignments, Mini Project, Simulation, Model making, Case study, Group activity, Seminar, Poster Presentation, Unit test, Quiz, Class Participation, Attendance, Achievements etc. where individual component weightage should not exceed 20%.

Suggested Specification table with Marks (Theory) (Revised Bloom's Taxonomy):

Distribution of Theory Marks in %						R: Remembering; U: Understanding; A: Applying; N: Analyzing; E: Evaluating; C: Creating
R	U	A	N	E	C	
15%	40%	25%	15%	5%	0%	

Note: This specification table shall be treated as a general guideline for students and teachers. The actual distribution of marks in the question paper may vary slightly from above table.

Course Outcomes (CO):

Sr.	Course Outcome Statements	%weightage
CO-1	Know different stages involved in product/process development.	25
CO-2	Understand menu planning process and nutritional requirements of target groups.	20
CO-3	Design and formulate specialty diets.	20
CO-4	Design therapeutic diets for diseases like diabetes, CHD etc	15
CO-5	Know the concepts of functional foods and nutraceuticals	20

Curriculum Revision:

Version:	2
Drafted on (Month-Year):	June-2022
Last Reviewed on (Month-Year):	
Next Review on (Month-Year):	June-2025