4275 – TECHNOLOGY OF FOOD PRODUCTS - II

Teaching Schedule Per Week			Progressive Assessment		Examination Schedule (Marks)			
Lectures	Practical	Credits			Theory		Practical Ex.	Total
2	2	4	25	25	3Hrs	100	-	150

Pre-requisite	Source
Nil	FOD

Semester	Theory	Test	Total	TW	PR	Gr Total
	75	25	100	50	—	150

Rationale: The course contents would remain flexible so as to include new topics as the needs of the industry change. Areas like extrusion technology, aseptic packaging, dietary foods, fast foods, soya products, etc. particularly relevant today have been included. Due importance has also been given to traditional Indian foods and their commercialisation. The processing of these foods in the laboratory will develop the skills in formulation and techniques needed by a technician.

COURSE CONTENTS	Hrs	Mks
1. COMPUTER APPLICATIONS IN THE FOOD INDUSTRY Possible areas for computer utilisation in the food industry. Use of computer for instruments, controls and monitoring programmable controllers and their potential.	2	9
2. ASEPTIC PACKAGIING General principles of aseptic processes. Product range. Components of an aseptic system. Aseptic canning-Dole system. Aseptic filling and packaging system for fluids. Tetrapak system, formfill-seal system. Standipack- Operational practices, production of sterile environment.	7	21
3. PROCESSED SOYA & GROUNDNUT PRODUCTS Composition of soya and groundnut seeds and cake. World and Indian production of the same. Preparation of protein concentrates and isolates from seeds and cake. Preparations of products like milk, cheese, and partially de-fatted products. Preparation of protein hydrolysate. Uses of protein concentrate, isolates and hydrolysates in the food industry.	7	23
4. EXTRUSION OF FOODS Introduction. Advantages and types. Range of extruded products. Food extruder components- Drive, feed assembly screw, barrel and discharge. Nomenclature- H/D, L/D. Extrusion of cereal based mixtures- Changes during processing. Formulation of typical legume- Cereal combinations. Extrusion equipment- Single screw Anderson Wenger and appropriate engineering types forming extruders, macaroni extruders.	7	20
5. DIETARY FOODS Different types of dietary foods- High and low fibre, low sugar sweet, low salt, low calorie foods. Use of additives, sweetening agents, low methoxy pectins, etc. Formulation and manufacture of dietary foods.	3	9
6. CONVENIENCE & FAST FOOD Introduction- Need for convenience and fast foods. Change in food habits, public feeding, etc. Advantages and limitations. Standardisation of quality factors and quality. The franchise systems, its working, advantages and requirements. Basic cooking processing with emphasis on deep-frying.	3	9

7. COMMERCIALISATION OF INDIAN FOODS Introduction and need for the above. Indian staple food, mixes and food adjuncts. Specific requirements for processing additives, etc. Finishing and shelf life adequate packaging materials and precautions.	3	9
Total	32	100

PRACTICALS

1) Recovery of protein from oilseed cake	2 x 3
2) Preparation of groundnut- soya based flavoured milk.	1 x 3
3) Preparation of soya flour enriched food.(bread / biscuit / Indian snack food).	1 x 3
4) Preparation and finishing of papad.	1 x 3
5) Preparation and finishing of any commercial variety of masala mix (dry or wet) and study of its shelf life.	2 x 3
6) Preparation and standardisation of any fast food. Adaptation required for franchising	2 x 3
7) Preparation of a dietary food (jam/soft drink).	1 x 3

REFERENCE BOOKS

1. Convenience Fast Food Handbook by M. E. Thormer AVI Publishers.
2. Textured Protein Products by M. H. Gutcho, NDC.
3. Extrusion of Foods, Vol. I & II by J. M. Harper, CRC Press
4. Encyclopaedia of Food Technology, AVI.

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II will also involve
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k done by him and discuss plans for further