RKDF UNIVERSITY

VALUE ADDITION COURSE

ON

FOOD PROCESSING AND VALUE ADDITION

Organized By:

Faculty of Agriculture

RAMKRISHNA DHARMARTH FOUNDATION UNIVERSITY

Gandhi Nagar, Bhopal, Madhya Pradesh, India-462033

Preface

India has always been pinned as one of the greatest agriculture-based countries of the world. A large section of its economy is generated through agriculture produce and manufacture. The Indian agricultural sector has always been known as one of the best and largest economy generation sector. Despite holding a remarkable position in the production sector, Indian have a poor reach of this expanding production, owing the lack of storage, refrigeration facilities and processing equipment which alter the food by its quality, quantity, added nutritional value and shelf life. India, being the top milk producer and second in fruits, vegetable and grain producer in the world has a growing number of food industries which are also described as sunrise industries.

However, only about 2-3% of the produce is processed and converted into value-added products. About 15 to 20 % of the produce, in some cases even more, is wasted due to improper cold storage infrastructures, transportation systems, lack of technical knowledge, skilled labour, and limited processing. It is necessary to develop skills and increase the technical knowledge base in the sector of novel post-harvest handling, processing, packaging, and storage technologies and infrastructure to improve availability and accessibility of the produces, improve the nutritional status of country, provide nutritional security, increase the agri-startups and improve nation's economy.

Aims and Objective

1. To improve the profitability of farmers.
2. To empower the farmers and other weaker sections of society especially women through gainful employment opportunities and revitalize rural communities.
3. To emphasize primary and secondary processing.
4. To reduce post-harvest losses.
5. Increase opportunities for smaller farms and companies through the development of markets.
6. Diversify the economic base of rural communities.
7. Overall, increase farmers' financial stability.

Learning outcomes

1. Understanding the basic concepts in food processing and engineering and will get knowledge of the different instruments used in food processing and engineering.
2. Understanding of different unit operations used in food processing.
3. Understanding of different preservation methods used in food processing.
4. Learning about processing of different fruits and vegetables product like fruit beverages, squash, cordial, nectar, jam, jelly, marmalade and defects in preparation of products.
5. Learning about different bakery products like cookies, cake, pizza base and bread.

GENERAL INFORMATION AND COURSE STRUCTURE

1. Duration of training : 30 Days
2. Eligibility Criteria : Any graduate
3. Language : Hindi/ English
4. Level - Certificate
5. Teaching mode: Offline classes, smart classes, videos, field visit, demonstration and PDF notes

MARKING SCHEME

S.No.	Name Of Course/ Group	Name Of Subject	Credit			
				Theory Marks	Practical marks	Total Marks
1	Value Addition Course	Food Processing and Value Addition	2(1+1)	75	25	100

COURSE ORGANIZER

Ms. Charu Bhagat Assistant Professor, Faculty of Agriculture, RKDF University

Mrs. Kratika Alawe, Assistant Professor, Faculty of Agriculture, RKDF University

TECHNICAL COMMITTEE ORGANIZER

Mr. Neeraj Jain, Assistant Professor, Faculty of Agriculture, RKDF University

Dr. Shiv Singh, Associate Professor, Faculty of Agriculture, RKDF University

SYLLABUS CONTENT

S.No	Topic Name	
	Theory	**Practical**
Unit 1	Introduction of Post-Harvest process and food engineering	
Unit 2	Cleaning, grading and separation of Agricultural produce.	
Unit 3	Size reduction Procedures: Crushing, Cutting, Impact, Shearing and cereals grinding.	
Unit 4	Size reduction Machineries: Crusher, Grinder, Attrition Mill and Hammer Mill.	
Unit 5		Practical: To study about different types of Cleaning, grading
Unit 6	Drying and Dehydration, utilities of drying, Methods of drying	
Unit 7		Practical: To study about different types of Dryers
Unit 8	Different types of Dryer	
Unit 9	Material handling and transportation, its unit operations.	
Unit 10	Food processing and preservation, methods of preservation: pasteurization, sterilization, blanching and canning	
Unit 11		Practical: To study about Sterilization, canning
Unit 12	Food spoilage: Introduction, types. Preservation: Introduction, types.	
Unit13	Processing of paddy: Parboiling, unit operation of paddy processing, value addition of paddy and rice	
Unit 14		Practical: To study about Processing of Paddy and its products
Unit 15	Processing of wheat: unit operation for wheat processing, value addition of wheat and by products of wheat.	
Unit 16		Practical: To study about Processing of Dalia, white flour

Unit 17	Baking Techniques, product development.	
Unit 18		Practical: To study about Processing of Cookies, cakes
Unit 19		Practical: To study about Pizza base, bread
Unit 20	Processing of pulses: Unit operation involve in pulse processing, products from pulses.	
Unit 21		Practical: To study about Processing of pulses and its products
Unit 22	Processing of oilseed: Unit operation used for oil processing, methods of oil extraction.	
Unit 23	Processing of Fruits and Vegetable: jam jelly, ketchup	
Unit 24		Practical: To study about Processing of Jam and jelly
Unit 25		Practical: To study about Ketchup, Tomato purees, soup
Unit 26	Milk and milk products.	
Unit 27	Extrusion	
Unit 28	Quality control	
Unit 29	Food packaging: Introduction, types and methods of packaging.	
Unit 30	Agricultural waste and by product utilization.	