CVM UNIVERSITY
Aegis: Charutar Vidya Mandal (Estd.1945)

FACULTY OF ENGINEERING & TECHNOLOGY

Effective from Academic Batch: 2022-23

Programme: Bachelor of Technology (Dairy Technology)

Semester: V

Course Code: 202200505

Course Title: Basics of Food Technology

Course Group: Professional Elective Course

Course Objectives: To acquaint the students about Food processing industries, Fruits, Vegetables and its juices processing along with beverages and Confectionery products. Students will also get the knowledge about Food Rheology, Freezing and Dehydration of foods.

Teaching & Examination Scheme:

Contact hours per week			Course Credits	Examination Marks (Maximum / Passing)				
				Theory		J/V/P*		Total
Lecture	Tutorial	Practical		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	**Introduction of food industry** Food Definition, Components of food science and technology, Objectives of the study of food engineering and technology, Major food processing sectors in India, Status of food processing industries in India, Classification of food into four food groups.	6
2	**Food Processing and Preservation** Objectives of cooking food**,** Preliminary treatments of cooking food, Methods of cooking, Classification of food on the basis of food spoilage, Factors affecting food spoilage, Need for food preservation, Principles of food preservation, Methods of food preservation and processing.	8
3	**Fruits, Vegetables and Grains** Classification of fruits, Nutritive values of Fruits, Colour pigments and flavouring Compounds, Changes during ripening and cooking, Classification of vegetables, Classification of Cereals, Value added products from cereals, Rice Products, Principles involved in cereals cookery, nutritional values of pulses, Anti-Nutritional factors and their elimination	8
4	**Beverages:** Scope and classification of beverages, General steps in juice processing, Additives for fruit-based beverages, Equipment and methods of extraction, clarification and preservation, Processing of selected fruit juices, Concentration and drying of fruit juices,	7

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	Carbonated beverages, Fruit beverages and drinks, Tea-Introduction and classification, Tea leaf processing, Specialty tea products, Coffee: Types and characteristics, Coffee processing,	
5	**Confectionery Products** Principles and classification, Candies, Chewing gums and bubble gums, Toffees and caramels, Cocoa bean processing, Chocolate liquor, cocoa butter and cocoa butter replacers/extenders, Chocolate products.	**6**
6	**Bakery Products:** Technology of Bread, Principle of Bread Baking, Ingredients and their Functions in Bread Making, Biscuit , Cookies, Cake , Cake making methods, Pasta products.	**6**
7	**Rheology of Foods:** Rheological Properties of Foods, Instruments for Rheological Measurement.	**4**
	Total	**45**

List of Practicals/Tutorials:

1	Preparation of Tomato puree/ ketchup
2	Performance of making of fruit Jam using seasonal fruits
3	Manufacture of Fruit Jelly on lab scale
4	Study of Taxture property of Food Product
5	Preparation of soymilk/tofu on lab scale
6	Study the processing steps of Bread making
7	Manufacture of cake in different flavour
8	Preparation of cookies using millets
9	Preparation of toffee/Caramel
10	Visit of industrial plant

Reference Books:

1	Textbook Of Food Science And Technology, 3rd Edition, by Sharma A. CBS publisher & Distributors pvt.ltd
2	Textbook Of Food Science And Technology by Vijay Khader , Published by Directorate of Knowledge Management in Agriculture ,ICAR , New Delhi
3	Kulp, K. and Ponte, J.G.Jr. (2000) Handbook of Cereal Science and Technology, 2nd Edition, Marcel Dekker, Inc., New York, USA.
4	Matz, S. A. (1969) Cereal Science, Samuel A. Matz (Ed.) pp. 79-96. The AVI Publishing Company Inc., England.

Supplementary learning Material:

1	https://agrimoon.com/wp-content/uploads/FOOD-TECHNOLOGY-I.pdf
2	https://agrimoon.com/wp-content/uploads/FOOD-TECHNOLOGY-II.pdf
3	https://www.foodkida.com/food-technology-notes
4	https://www.iftbu.in/ift-books-magazine/ift-books-pdf
5	https://ia601408.us.archive.org/20/items/textbookoffoodsc0000khad/textbookoffoodsc0000khad.pdf
6	https://epgp.inflibnet.ac.in/Home/ViewSubject?catid=iWHzbXYGExXDS52DSnAzdQ==

Pedagogy: Following one or more points can be incorporated as relevant pedagogy methods.

- Direct classroom teaching

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- Audio Visual presentations/demonstrations
- Assignments/Quiz
- Continuous assessment
- Interactive methods
- Seminar/Poster Presentation
- Industrial/ Field visits
- Course Projects

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**	
10%	50%	20%	10%	10%	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	To get the awareness about the food processing industries and future prospects.	**20**
CO-2	To study and understand about fruits, vegetables and grain processing.	**30**
CO-3	To get the knowledge about beverages, bakery and confectionary industry.	**30**
CO-4	To acquire the knowledge of Food Rheology and instruments used for the measurement of the same.	**20**

Curriculum Revision:	
Version:	1.0
Drafted on (Month-Year):	October-2022
Last Reviewed on (Month-Year):	-
Next Review on (Month-Year):	-

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