

Department: Food Processing and Packaging

II Year Advanced Diploma Program (Part Time) (PG)

1. Title: Food Safety and Quality management
2. Year of Implementation: 2022-2023
3. Duration: One Year
4. Pattern: Semester
5. Medium of Instruction: English
6. Contact hours: 7 hours/week
7. Eligibility: Graduate (Science)
8. Structure of Course:

Syllabus Structure (PG)

Year	Semester	Paper No.	Paper Code	Contact Hours	Credits (1Credit=15 H)	Total Marks	
1	I	CT I	ADFP*T 101	30	2	75	
		CL I	ADFP*L101	60	2	150	
	II	CT II	ADFP*T 202	30	2	75	
		CL II	ADFP*L202	60	2	150	
	Annual	CP I	ADFP*P101	60	2	150	
	Total				240	10	600
2	III	CT III	ADFP *T 303	30	2	75	
		CL III	ADFP * L303	60	2	150	
	IV	CT IV	ADFP *T 404	30	2	75	
		CL IV	ADFP * L404	60	2	150	
	Annual	CP II	ADFP *P202	60	2	150	
	Industrial and or Incubation and or Research and or Field Training				60	2	-
	Total				300	12	600
Total				540	22	1200	

Total No. of Courses: Theory: 6, Practical:3,

Project:3 Number of Lectures per week: 08

Theory: Semester, Practical and Project: Annual

CT: Course Theory, CL: Course Lab, CP: Course Project, AD: Advance Diploma, * : Name of Subject,

Semester III

CT III: ADEPT 303: Food Safety and Quality Assurance for Bakery and Confectionary Industries
(Contact Hrs: 30 Credits: 2)

Learning Objectives: Students will be able to

1. describe Food Safety and Quality Assurance for Bakery and Confectionary Industries
2. evaluate the quality and safety of food.

Unit I: Fssai Regulations **(15)**

Food Safety and Quality Assurance For Bakery and Confectionary Industries, FSMS Plan Development For Bakery and Confectionery Products And Industries- GHP and GMP Pertaining to Bakery and Confectionery Products Manufacturing- Health And Safety- Code For Hygiene Condition In Bakery and Confectionery Manufacturing Unit.

Unit II: Food Quality and Food Safety **(15)**

Quality of raw materials, quality checks on flours, building inspection and routine cleaning programs, process control- microbial and fungal contaminants. Ingredients, Equipment's, bakery quality assurance, ingredient inspection, process control, assessing products for quality.

Learning Outcomes: Students are able to

1. describe Food Safety and Quality Assurance for Bakery and Confectionary Industries
2. evaluate the quality and safety of food.

References:

1. Basic Baking, Science and craft, Dubey S. C., 1979.
2. Chocolate, Cocoa, and confectionery, Bernard. W. M, CBS publishers and Distributors.,3rd Ed,1997.
3. Cereal Milling and Bakery Products. Production Methods, Equipment and Quality Assurance Practices, Ouaouich and Peter Fellows. C. FAO Publications, Rome. 2004
4. Assuring food safety and quality. FAO Food and Nutrition Manual., FAO publications, Rome. 2012.

CLIII: ADFPL303: (Practical)
(Contact Hrs: 60 Credits: 02)

Learning Objectives: Students will be able to

1. prepare various types of confectionary product
2. demonstrate the methods of estimation of gluten content
3. characterize the methods of determination of rheological properties
4. formulate various products from bakery and confectionary.

List of Practical's

1. Characterization of refined wheat flour
2. Formulation of vegetable pomace cookies
3. Preparation of sugar-based confectionary
4. Estimation of gluten content from wheat and refined wheat
5. To study chocolate-based confectionary
6. Preparation of edible bowl by various grain
7. To study preparation of frozen desert
8. Characterization of wheat flour
9. Preparation of milk-based confectionary
10. To study rheological properties of wheat dough
11. Preparation of fruits and vegetable-based confectionary
12. Determination of proximate analysis of bakery product
13. To study preparation of flour confectionary
14. Preparation of multigrain cookies
15. Estimation of functional characteristics of bakery raw material

Learning Outcomes: Students are able to

1. explain about preparation of various types of confectionary product
2. demonstrate the methods of estimation of gluten content
3. characterize the methods of determination of rheological properties
4. formulate various products from bakery and confectionary.

References:

1. Dubey SC. Basic Baking, Science and craft. 1979.
2. Bernard. W. Minifie., Chocolate, Cocoa, and confectionery (Science and Technology, 3rd Edition) CBS

publishers and Distributors, New Delhi – 110002, 1997.

3. Ouaouich and Peter Fellows. Cereal Milling and Bakery Products. Production Methods, Equipment and Quality Assurance Practices. FAO Publications, Rome. 2004

4. Assuring food safety and quality. FAO Food and Nutrition Manual., FAO publications, Rome. 2012.

Semester IV

CT IV: ADFP *T 404: Food Safety Systems in Dairy Industries (Contact Hrs: 30 Credits: 2)

Learning Objectives: Students will be able to-

1. recall food safety system in dairy Industries.
2. analyze quality control of milk and nutritional facts of milk.

Unit I: Milk Composition and Reception (15)

Milk Composition, Major and minor milk constituents, Nutritional Importance - Milk reception operations - Unloading-Conveying - Examination of raw milk-weighing sampling of Milk - Quality control lists for milk and their significance.

Unit II: Standards, Product Certification and Licensing (15)

Sanitization in CIP process - Cleaning and sanitization - Cleaning Methods and consideration-Sanitization methods, Factors and applications - Assessment of effectiveness of cleaning and sanitizations. Introduction - Preservatives – Neutralizer - Adulterants - Detection methods - Standard specification of Milk and Milk products - Dairy product certification and licensing.

Learning Outcomes: Students are able to

1. recall food safety system in dairy Industries.
2. analyze quality control of milk and nutritional facts of milk.

References:

1. Outlines of dairy technology De, Sukumar, Oxford University Press, Delhi. 1980.
2. Fundamentals of Dairy Chemistry, Webb B.H. and Johnson, A.H, AVI Publishing Co, Connecticut, USA, 1979.
3. Ultra-high-temperature processing of milk and milk products, Burton, H., Elsevier Applied Science, London. 2018
4. Engineering for dairy and food products, Farall Arthur W., Wiley Eastern Private Ltd. New Delhi., 1967

Learning Objectives: Students will be able to

CL IV
ADFPL4
04:
(Practical
):
(Contact
Hrs: 60
Credits:
02)

1. explain about preparation of Sample of milk and milk products
2. demonstrate the methods of detection of Adulterants in Milk
3. analyze the moisture and acidity of various milk products.
4. evaluate moisture and acidity of various milk products.

List of Practical's

1. Preparation of Sample of milk and milk products
2. Detection of Adulterants in Milk
3. Detection of Added Urea in Milk
4. Detection of Sodium Chloride in milk
5. Estimation of Fat in Milk

6. Alkaline Phosphatase Test for Checking Efficiency of Pasteurization in Liquid Milk
7. Determination of moisture from Paneer
8. Determination of Moisture in Cheese
9. Detection of Vegetable Fat in Ghee
10. Determination of Titratable Acidity in Chakka
11. Determination of Titratable Acidity in Shrikhand
12. Determination of Titratable Acidity in Yogurt
13. Determination of Peroxide Value in Ghee
14. Determination of Free Fatty Acids in Ghee
15. Estimation of Fat in different milk products

Learning Outcomes: Students are able to:-

1. explain about preparation of Sample of milk and milk products
2. demonstrate the methods of detection of Adulterants in Milk
3. analyze the moisture and acidity of various milk products.
4. evaluate moisture and acidity of various milk products.

References:

1. Outlines of dairy technology De, Sukumar, Oxford University Press, Delhi. 1980.
2. Fundamentals of Dairy Chemistry, Webb B.H. and Johnson, A.H, AVI Publishing Co, Connecticut, USA, 1979.
3. Ultra-high-temperature processing of milk and milk products, Burton, H., Elsevier Applied Science, London. 2018
4. Engineering for dairy and food products, Farall Arthur W., Wiley Eastern Private Ltd. New Delhi., 1967

CP III: AD *P101 (Project): Related to the Syllabus

(Contact Hrs. 60, Credits: 2)

BOS Sub-Committee

1. Dr.R.B.More (Chairman)
2. Mr.V.M.Rehepade (Member)

Expert Committee

1. Dr.A.K.Sahoo (Academic Expert)
2. Mr.A.R.Patil (Industrial Expert)

