

Department of Food Technology
Vikram University, Ujjain (MP)

SYLLABUS
CERTIFICATE COURSE
IN
FOOD ADULTERATION

(SIX MONTHS)
(Regulation No. 15)

(FOR UTD)

COURSE STRUCTURE AND SCHEME

MD

Sudhakar

2021-2022

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CERTIFICATE COURSE IN FOOD ADULTRATION
SIX MONTHS PROGRAMS
(Regulation No. 16)
COURSE CONTENT: SYLLABUS/PROGRAMME 2021-2022
SCHEME OF EXAMINATION

S.N.	Paper Code	Title of Paper	Theory Marks		Internal Marks		Total
			External Marks	Min. Pass Marks	Marks	Min. Pass Marks	
1	CFA 101	Food Processing	75	27	25	09	100
2	CFA 102	Food Adulteration	75	27	25	09	100
3	CFA 103	Internship/ Industrial Training/ Project Work	150	54	50	28	200
Total			300		100		400

Minimum Pass Marks in each Paper (Theory) -36%
Minimum Pass Marks in each Paper (Internal Assessment) -36%
Minimum Pass Marks in Practical -36%

The Division shall be awarded as follows:

First Division : 60% or above of the aggregate marks
Second Division : 48% or above but less than 60% of the aggregate marks.
Pass : Less than 48% but 36% and above in aggregate.

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**SYLLABUS OF
CERTIFICATE COURSE IN FOOD ADULTERATION**

COURSE CODE NO: CFA 101: FOOD PROCESSING

Course Objectives:

To enable students -

1. To understand the basic concept of various cookery
2. To become familiar with preparation of various cookery
3. To develop different bakery product
4. To study Role & chemistry of bakery & confectionary

Course Outcome:

Students shall develop the knowledge of need of food processing and learn various techniques. To study impart knowledge on the principles of different techniques used in processing of food and Knowledge about baking and milling of process.

Unit I –

INTRODUCTION TO FOOD SCIENCE: Concept of food, food science, Objectives of food Science, Functions of food, **CLASSIFICATION OF FOOD:** According to food science, Basic five food groups, Selection of food, **METHODS OF COOKING:** Traditional cooking methods, Modern cooking methods, Objectives and importance of cooking, **FOOD PREPARATION AND STORAGE:** Basic terms used in food preparation, Pre-preparation for cooking, Storage of raw and cooked food

Unit II: -

CEREAL COOKERY: Structure, composition and Importance of cereal grains, Types of cereals used in cooking, Cereal cookery- Gelatinization, Dextrinization and Identity of grain, Processed cereals, millets and Ready-To- Eat cereals used in cooking, **PULSE AND LEGUME COOKERY:** Definition, composition and structure of pulses, Cooking of Legumes, Factors Affecting cooking time of pulses and legumes, Uses of legumes in cookery, **NUTS AND OIL SEEDS COOKERY:** Types and composition of Nuts and Oil seeds, Toxic substances in Nuts and Oil seeds, Changes during cooking and storage, Function of Nuts and Oil seeds in cookery **FRUITS AND VEGETABLES COOKERY:** Classification of Fruits and vegetables, Colour pigments in Fruits and vegetables, Effect of heat, acids and alkali on Fruits and vegetables, Changes during cooking and storage

Unit III:-

INTRODUCTION TO BAKERY: Ingredients used in bakery products, Role of ingredients, Introduction to bakery machineries, Scope of bakery processing, **BAKERY PRODUCTS:** Biscuits & cookies – Introduction, Difference, Ingredients process, Packaging & storage, Bread- Introduction, Difference, Ingredients process, Packaging & storage, Cake – Types - Introduction, Difference, Ingredients process, Packaging & storage, Judging & Grading of bakery product,

Unit IV:-

INTRODUCTION TO CONFECTIONARY: Ingredients used in confectionary, Role of ingredients, Types of confectionary, Cocoa Processing, **CONFECTIONARY PRODUCT:**

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REFERENCE BOOKS

1. Sumati R. Mudambi : Fundamentals of Food & Nutrition wiley Eastern Ltd., New Delhi
2. Food Microbiology by William Frazier
3. Food Microbiology by W.M. Fester
4. Laboratory manual of Food Microbiology by Neelima Garg, K .L .Garg
5. Fundamental Food Microbiology by Biber Ray & Arun Bhunia.
6. Handbook of culture media for Food Microbiology by Curtis R. M. Baird
7. B. Shreelaksmi : 'Food Science'' (second edition) (second edition), New Age International, New Delhi.
8. Swaminathan : 'Text book of Food Science'', Vol-1, BAPPCO, Bangalore
9. Devendrakumar Bhatt & Priyanka Tomar : An Introduction to Food Science, Technology & Quality Management, Kalyani Publishers.
10. Sumati R. Mudambi : Fundamentals of Food & Nutrition wiley Eastern Ltd., New Delhi.
11. Philips T E, Modern Cooking for teaching and trade, Volit orient longman, Bombay
12. Technology of biscuits, rusks, crackers & cookies by EiRi
13. Technology of confectionary, chocolate, toffee, candy, jelly product by EiRi
14. Textbook of bakery & confectionary by Vogambal Ashokkumar.
15. Complete technology book on bakery products by NIIR board.
16. Theory of bakery & patisserie by Parvindar S Bali
17. Desrosier NW & James N. (2007). Technology of food preservation. AVI. Publishers
18. Fellows, P.J. (2005). Food processing technology: Principle and Practice. 2nd Ed. CRC Publishers
19. Jelen, P. (2005). Introduction to Food Processing. Prentice Hall
20. N.M. Potter, Food Science and Technology

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COURSE CODE NO: CFA 102: FOOD ADULTERATION

Course Learning Outcomes:

After successful completion of the course, students will be able to:

1. Get basic knowledge on various foods and about adulteration.
2. Understand the adulteration of common foods and their adverse impact on health
3. Comprehend certain skills of detecting adulteration of common foods.
4. Be able to extend their knowledge to other kinds of adulteration, detection and remedies.
5. Know the basic laws and procedures regarding food adulteration and consumer protection.

UNIT-I – Common Foods and Adulteration:

Common Foods subjected to Adulteration - Adulteration – Definition – Types; Poisonous substances, Foreign matter, Cheap substitutes, Spoiled parts. Adulteration through Food Additives – Intentional and incidental. General Impact on Human Health.

UNIT-II –: Adulteration of Common Foods and Methods of Detection: (10hrs)

Means of Adulteration Methods of Detection Adulterants in the following Foods; Milk, Oil, Grain, Sugar, Spices and condiments, Processed food, Fruits and vegetables. Additives and Sweetening agents (at least three methods of detection for each food item).

UNIT-III –: Present Laws and Procedures on Adulteration:

Highlights of Food Safety and Standards Act 2006 (FSSA) –Food Safety and Standards Authority of India–Rules and Procedures of Local Authorities.
Role of voluntary agencies such as, Agmark, I.S.I.

UNIT-IV –: Quality control laboratories of companies, Private testing laboratories, Quality control laboratories of consumer co-operatives.

Consumer education, Consumer's problems rights and responsibilities, COPRA 2019 - Offenses and Penalties – Procedures to Complain – Compensation to Victims.

Reference e Books and Websites:

1. A first course in Food Analysis–A.Y.Sathe, New Age International (P) Ltd., 1999
2. Food Safety, case studies–Ramesh. V. Bhat, NIN, 1992
3. https://old.fssai.gov.in/Portals/0/Pdf/Draft_Manuals/Beverages and confectionary.pdf
4. <https://cbseportal.com/project/Download-CBSE-XII-Chemistry-Project-Food-Adulteration#gsc.tab=0> (Downloadable e material on food adulteration)
5. <https://www.fssai.gov.in/>
6. <https://indianlegalsolution.com/laws-on-food-adulteration/>
7. <https://fssai.gov.in/dart/>
8. <https://byjus.com/biology/food-adulteration/>
9. Wikipedia
10. Vikas pedia

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**COURSE CODE NO: CFA 103: INTERNSHIP/ INDUSTRIAL TRAINING/
PROJECT WORK**

Course Objective:

1. Field project/Internships/Community engagements are designed to expand the depth and breadth of academic learning for you in your particular areas of study.
2. It is an opportunity for you to receive experience in applying theories learned in the classroom to specific experiences in the community and work world.
3. An internship can also heighten your awareness of community issues, motivate you to create opportunities, embrace new ideas, and give direction to positive change.
4. A successful internship can give you valuable information in making decisions about the direction of future studies or employment.
5. An internship is an opportunity to not only use and develop industry-related knowledge and skills, but also to enhance some of the skills that are transferable to any professional work setting.
6. This internship may be your first introduction to the world of work, or maybe you have been exposed to professionalism many times before.
7. No matter where your skills and understanding of professionalism lie, your internship is a chance to develop them even further.

Course Outcome:

By the end of the internship, our hope is that you will have:

- 1- Linked academic theory to practice in your discipline;
- 2- Applied your knowledge, skills, experience to a work environment;
- 3- Acquired new learning through challenging and meaningful activities;
- 4- Reflected on the content and process of the learning experience;
- 5- Advocated for your own learning in alignment with internship goals;
- 6- Demonstrated professional skills in the workplace;
- 7- Built and maintained positive professional relationships;
- 8- Demonstrated awareness of community and/or organizational issues;
- 9- Identified, clarified and/or confirmed professional direction as it relates to your academic studies and future career path;
- 10- Developed self-understanding, self-discipline, maturity and confidence;
- 11- Developed strong networking/mentoring relationships.

Review of the state of research in a particular problem involving food, and development of hypothesis, Planning and conducting the experiment, Periodic analysis of data and preparation of report, Final preparation of project report as dissertation to be submitted in partial fulfillment of Six Months Certificate Programme.

Swamy - MA [Signature]