

SEVA MANDAL EDUCATION SOCIETY'S
SMT MMP SHAH WOMEN'S COLLEGE OF ARTS AND COMMERCE
(AUTONOMOUS)

Smt. Parmeshwari Devi Gordhandas Garodia Educational Complex 338,

RA Kidwai Road, Matunga, Mumbai 400019

*NAAC Reaccredited *

UGC Status: College with Potential for Excellence

Adjudged The Best College (2017-18) by SNTD Women's University

Institutional Vision

Empowerment of Women through Quality Education to make them Competent, Self-reliant
and Responsible Homemakers, Professionals and Citizens

Institutional Mission

Education for a living and for making a better living

Institution Objectives

All round personality development of students

Training students to be responsible citizens with awareness-raising programs and activities

To make higher education more relevant, need based and skill based

To lay foundation for progressive and prosperous future of the students

Programme Outcomes: Home Economics

- To include a multidisciplinary/ interdisciplinary component to subjects such as Economics and Psychology from the Arts faculty
- to understand the art, science, technology and management of different foods, standardisation of recipes and bulk cookery
- To understand the aspects of child development and child care from infancy to adolescence
- To add a skill- base module to encourage entrepreneurship and employability

Programme Specific Outcomes:

Nutrition and Meal Management

The specialization will enable the students

- To understand the composition of foods with special emphasis on nutrients, their sources and significance.
- To gain knowledge of basic techniques of food processing and preservation
- To develop entrepreneurial skills and be able to manufacture some food products on a small scale.

Programme: CApC Home Economics

Medium: English

Paper: Nutrition & Meal Management

Paper Title: Fundamentals of Food Science

Semester: I

Subject Code:

Title of the Paper	L	Cr	P/T	D (EE)	EE	IE	TM
Fundamentals of Food Science	03	03	02*	2.5	75	25	100

#L=Lecture, Cr=Credits, P/T=Practical/Tutorials, D=External Exam Duration, EE=External Examination, IE=Internal Examination, TM=Total Marks

Course Objectives: This course will enable the students

- To know the different terms, concepts, composition and classification of food
- To understand factors that affect palatability and acceptability of food
- To understand perishability, storage and preservation of different foods
- To understand the different pre-preparatory methods and methods of preparation of foods
- To understand the various changes taking place during cooking of foods

Learner Outcomes: The students will be able to

- Understand the importance of food in daily diet and the dietary pattern
- Classify different foods and understand their composition
- Use the correct method of storage and preservation of different foods
- Choose and use the correct method of preparation for different foods and understand how the changes occurring during cooking will influence the acceptability of food

Module	Module Specific Objectives	Content	Weightage	Instruction Time	Credits	Evaluation	
						IE Weightage	EE Weightage
1.	The students will understand the importance of food in life Become aware of the types of food consumed and learn to classify foods in different ways	Food composition and classification 1.1 Functions of Food 1.2 Classification of foods: based on Food groups and perishability of food 1.3 Understanding composition of different Foods, Food matrix Food pyramid, Food Guide 1.4 Dietary diversity	25	11 lectures	01	5	20
2.	The students will know the factors that influence individual and family food consumption patterns Will be able to learn how to evaluate food/ preparations	Food consumption and Acceptance 2.1 Food consumption patterns in India 2.2 Factors affecting food consumption- Food availability, Socioeconomic status, Culture, Religion, Food habits, age, health status, media, technological advances and others. 2.3 Factors affecting food Acceptability- Colour, Texture, Appearance and Taste 2.4 Sensory evaluation of food	25	11 lectures	01	5	20
3.	The students will learn skills of food pre-preparation and preparation techniques Will understand what and how the changes occur during the cooking of food Will know how to minimise nutrient loss during cooking	Food Preparation 3.1: Reasons for cooking food 3.2: Selection and storage of different foods 3.3: Prepreparation techniques: Cutting, chopping, grating, mincing, soaking, sprouting, and fermentation 3.4: Methods of cooking: Dry heat methods, Moist heat methods, oil as a cooking medium,	25	11 lectures	01	5	20

		combination of methods 3.5: Use of different equipment for cooking: Pressure cooker, solar cooker, Oven, Microwave oven, induction cooking 3.6: Effect of Cooking on Carbohydrates, Proteins, Fats, Colour pigments 3.7: Retention of nutrients during cooking					
4.	The students will understand the importance, the techniques of maintaining cleanliness and sanitation while cooking	Food Sanitation and Hygiene 4.1 Importance 4.2 Contamination of food through different sources 4.3 Food borne diseases 4.4 Rules for maintaining sanitation and hygiene in cooking and service of food 4.5 Waste disposal	25	11 lectures	01	5	20

SEMESTER 1: PRACTICAL IN FUNDAMENTALS OF FOOD SCIENCE

Objectives:

- To understand the concept of weights, measures and serving sizes
- To familiarize students with using various equipment for cooking
- To learn pre-preparation techniques
- To learn food preparation using different methods of cooking
- To be able to select appropriate cooking method for a recipe
- To understand effect of cooking on food and nutrients

Practical No	Topic	Number of practical	% Weightage
1.	Introduction 1.1 Laboratory rules, techniques of using common kitchen gadgets and rules of maintenance of sanitation and hygiene in laboratory 1.2 Interrelationship of weight and measures. Weighing techniques for 1. Dry ingredients and 2. Fluids 1.3 standardisation of raw material	02	10
2	Pre-Preparation Techniques Washing, cutting, slicing, dicing, soaking, making batter, making dough, wet and dry grinding, sprouting and fermentation	02	10

3.	Methods of cooking: Make recipes using following methods: 3.1 Moist heat methods- boiling, stewing, simmering, steaming, pressure cooking 3.2 Dry heat methods- roasting, toasting, grilling, baking 3.3 Deep fat frying, shallow frying, pan frying, Braising' 3.4 Combination of different methods	02	20
4	Changes during cooking- 4.1 Preparing recipes to show the following changes- Gluten formation, Gelatinization, Dextrinization, Gel formation, Crystallization, Caramelization, coagulation of protein 4.2 Effect of cooking, acid, alkali on colour of food	02	20

Evaluation Scheme:

Internal Examination:

The internal testing will be carried out as follows

1. One written test of 25 marks or two written tests for 10/15 marks = **A**
2. Each practical will be evaluated for 10 marks and journal will be evaluated for 5 marks. The average marks for all practical out of 25 will be taken= **B**
3. Individual or group assignments for each chapter will be taken and average calculated out of 25 marks= **C**
4. The final internal assessment out of 25 marks will be the average of marks obtained as $A+B+C/3$

External Examination:

A written exam for 75 marks will be conducted.

The pattern of the written exam would be as follows:

A total of 6 questions each for 15 marks will be asked and students have to answer any 5 out of the 6 questions.

The following type of questions may be asked

- Explain the Terms with examples- each term for 3marks
- Short Notes each note for 5 marks
- Give reasons each statement for 3 marks
- Answer briefly- each answer for 3 marks
- List the following- each list for 3 marks
- Long answers- each answer for 5 marks each
- Application of knowledge- 2 questions 7/8 marks

References:

Essential Reading

- Joshi, S. (2017) *Nutrition and Dietetics*. (4th edition); Tata Mc Graw Hill Publishing Company Ltd.
- Mudambi, S.R. and Rajgopal, M.V. *Fundamentals of Foods and Nutrition*. (2nd edition), Wiley Eastern Ltd, New Delhi.
- B.Srilakshmi.(2018) *Food Science* (VII edition). New Age International (P) Ltd, Publishers
- IFCT 2019; NIN, Hyderabad
- Thangam Philip. (2010) *Modern Cookery: Vol 1 and 2*, Orient BlackSwan

Additional Reading

E-Books

- Gibson, Mark, Newsham. Pat (2018). *Food Science and the Culinary Arts*. London, United Kingdom: Academic Press. ISBN: 9780128118160, eISBN: 9780128118177
- Richardson, Keyth. (2014). *Basic Cookery for Foundation Learning*. London: Hodder Education Group. ISBN: 9781471808197 eISBN: 9781471808203
- Conforti, Frank D (2008). *Food Selection and Preparation: A Laboratory Manual* Ed.: (2nd ed.) Ames, Iowa : Wiley-Blackwell. ISBN: 9780813814889, eISBN: 9781118591802
- Patten, Marguerite (2008). *The Basic Basics Baking Handbook*. Havertown: Grub Street Cookery. ISBN: 9781904010111, eISBN: 9781910690956