

As Per NEP 2020

University of Mumbai



Syllabus for Basket of Minor	
Board of Studies in Home Science	
UG First Year Programme	
Semester	II
Title of Paper	Credits
IV) PRINCIPLES OF FOOD SCIENCE	2
From the Academic Year	2024-2025

Sr. No.	Heading	Particulars														
1	Description the course : Including but Not limited to :	PRINCIPLES OF FOOD SCIENCE This Course deals with fundamental concepts in food science, underlying principles involved in various methods of heat transfer as different methods of cooking, the resulting changes occurring in food with storage and basic processing. It imparts the necessary skills to design nutritious recipes.														
2	Vertical :	Major/√ Minor /Open Elective /Skill Enhancement / Ability Enhancement/Indian Knowledge System (Choose By √)														
3	Type :	Theory														
4	Credit:	2 credits (1 credit = 15 Hours for Theory)														
5	Hours Allotted :	30 Hours														
6	Marks Allotted:	50 Marks														
7	Course Objectives <table><tr><td colspan="2">The course enables learners to:</td></tr><tr><td>1.</td><td>Acquire knowledge of various fundamental concepts in Food Science, its facts and principles.</td></tr><tr><td>2.</td><td>Study the different methods of heat transfer involved in different cooking methods.</td></tr><tr><td>3.</td><td>Understand nutritional importance of various food groups.</td></tr><tr><td>4.</td><td>Develop the ability to select and apply the principles of Food Science to practical situations.</td></tr></table>		The course enables learners to:		1.	Acquire knowledge of various fundamental concepts in Food Science, its facts and principles.	2.	Study the different methods of heat transfer involved in different cooking methods.	3.	Understand nutritional importance of various food groups.	4.	Develop the ability to select and apply the principles of Food Science to practical situations.				
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S.No.	Course Content	Hours
Module 1.	A. Concept of Food Science B. Cooking i. Reasons for cooking foods ii. Methods of heat transfer- Conduction, convection and radiation iii. Cooking Methods Moist heat methods, Dry heat methods & Combination methods Brief Introduction to principles of solar cooking, microwave cooking and induction cooking. C. Introduction to various food groups Classification, structure, nutritive value, selection, storage and elementary principles of cooking involved in the following food groups: i. Cereals and millets • Difference between cereals and millets • Structure of a cereal grain • Nutritive value of cereals • Gelatinization and dextrinization • Gluten formation in dough ii. Pulses and Legumes • Nutritive value of pulses and legumes • Anti-nutritional factors in pulses • Elementary Principles of cooking • Role in pulses in cookery iii. Nuts and Oilseeds • Classification • Nutritional significance • Role in cookery iv. Fats and oils • Visible and invisible fat in food • Nutritional significance • Smoke point, flash point and fire point of fats and oils • Hydrolytic and oxidative rancidity in fats and oils • Oil extraction- Pressing method and rendering • Hydrogenation process • Role in cookery • Emulsions: Temporary and permanent	15

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12	Internal Continuous Assessment: 40%	External, Semester End Examination : 60% Individual Passing in Internal and External Examination	
13	Continuous Evaluation through: Quizzes, Class Tests, presentation, project, role play, creative writing, assignment etc.(at least 3)	Evaluation for Theory (2 Credits for 50 Marks)	
		CONTINUOUS INTERNAL EVALUATION (planned as per the need of the course)	Marks
		Class participation/Quiz/Review of literature and guided discussions/Q&A sessions	10
		Class tests/PPT Presentations and relevant planned assignments	10
		Total Marks for Internal Assessment	20
14	Format of Question Paper: for the final examination		
	SEMESTER-END THEORY EXAMINATION		
	All questions are compulsory with internal choice.		
	Question 1 – Unit 1	10	
	Question 2 – Unit 2	10	
	Question 3 – From Multiple Units	10	
	Total Marks for Semester End Examination	30	

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