

As Per NEP 2020

University of Mumbai



Syllabus for Basket of Open Elective (OE) Vertical 3

Faculty of Interdisciplinary Studies

Board of Studies in Maritime Hospitality Studies

Second Year Program

Semester	III
Title of Paper	Nutrition and Food Science
Credit	2
From the Academic Year	2025-26

Syllabus for Open Elective (OE) (Semester – III)

NUTRITION AND FOOD SCIENCE (Theory) (C-2)

Title of Paper: - NUTRITION AND FOOD SCIENCE (Theory)		
Course Code :-		
Sr. No.	Heading	Particulars
1	Description the course : Including but Not limited to :	"Nutrition and Food Science" refers to the study of food, its components (nutrients), and how they interact with the human body, encompassing aspects like food composition, digestion, nutrient absorption, physiological effects of nutrients on health, and the impact of food processing techniques on nutritional value, aiming to understand how diet can influence health and disease prevention This course designed to educate aspiring chefs on the scientific principles behind food, including the nutritional content of ingredients, how cooking methods affect nutrients, and how to create healthy and balanced dishes.
2	Vertical :	Open Elective
3	Type :	Theory
4	Credit:	2 credits (1 credit = 15 Hours for Theory)
5	Hours Allotted :	30 Hours
6	Marks Allotted:	50 Marks (Internal Exam - 20 Marks/ External Exam - 30 Marks)
7	Course Objectives:	The Objective of this course is – 1. To make students aware about nutritional facts about various products and balanced diet and various new trends in diet. 2. To state the relation between food and various factors influencing eating habits 3. To state the breakup of protein carbohydrate and fat component of food 4. To understand the basic need of vitamins and minerals.
8	Course Outcomes:	After completion of this course student will be able 1. To state the importance of nutrition on health. 2. To list types of carbohydrate, proteins and fat, their sources and functions. 3. To list minerals and vitamins their sources and functions 4. To state the importance of water to human body and list modern day health concerns 5. To plan menus as per various nutritional requirements

9	SUB UNIT	TOPICS	Total Hrs 30
Module 1	1	• INTRODUCTION TO NUTRITION	15 hrs
	1.1	- Definition- Malnutrition, Under nutrition, over nutrition, diet, kilo calories, health, Balanced diet	
	1.2	- Classification of Nutrients	
	1.3	- Food and its functions	
	1.4	- Factors affecting food intake and food habits- Geographical, economical, Religious, Social reasons.	
	1.5	- Food Pyramid	
	1.2	• CARBOHYDRATES	
	1.2.1	- Introduction	
	1.2.2	- Classification and its function	
	1.2.3	- Sources	
	1.2.4	- Uses in Food Preparations- (Gelatinization, Gel formation, - - Dextrinization, Gluten Formation, Caramelization)	
	1.3	• PROTEIN	
	1.3.1	- Introduction	
	1.3.2	- Classification and Function	
	1.3.3	- Sources	
	1.3.4	- Uses in Food Preparation- (Gel Formation, Foaming)	
	1.3.5	- Effect of heat (Denaturation, Coagulation)	
Module 2	2	• FATS AND OIL	15 hrs
	2.1	- Introduction	
	2.2	- Classification of Fatty acids	
	2.3	- Function and Sources	
	2.4	- Hydrogenation of Fats	
	2.5	- Rancidity- Causes and Prevention	
	2.1	• VITAMIN, MINERALS, WATER	
	2.1.1	- Introduction	
	2.1.2	- Classification	
	2.1.3	- Effect of heat on color pigment	
	2.2	• SPECIAL NUTRITIONAL REQUIREMENTS	
	2.2.1	- Sugar Free	
	2.2.2	- Vegan	
	2.2.3	- Anti allergen diet (Mushroom, nuts, Lactose, sea Food)	

10	Reference Books :- 1. Food Poisoning & Food Hygiene - Hobbs, Betty & Roberts, Diane 2. Food Hygiene& Sanitation - Rodey S 3. Industry Guide to Good Hygiene Practice: Catering Guide Ships, 2004, Chadwick House Group Ltd., 15, Hatfields, London – SE1 8DJ. 4. Catering Science & Food Safety - Sumitra Deshmukh & Dr Asmita Thakur 5. Handbook of food & nutrition, M. Swaminathan, 1999, 6. Food microbiology, W. C. Frazier / D. D. West off, 1991 7. Nutritive value of Indian foods, Gopalan, 1995, Jacob Michael, Delhi 8. Safe food handling, Stanley Thomas 9. The Prevention of food poisoning, Jill Trickett, 1992	
11	Internal Continuous Assessment: 40%	External-Semester End Examination- 60 %
	Individual Passing in Internal and External Examination : 40 %	
12	Continuous Evaluation through: Quizzes, Class Tests, presentation, project, role play, creative writing, assignment etc	Select at least 3

Examination

QUESTION PAPER PATTERN (External and Internal)

Examination Semester I Pattern of Theory Exam

Theory Courses Evaluation Scheme for Second Year (UG) under NEP

Nature of Examination	Particular				Time	Total Marks
I. Internal Evaluation for Theory Courses						
Continuous Internal Assessment (CIA) Assignment	Sr. No	Examination	Module	Marks	Time	Total Marks
	1	Class Test	Module I or on Completed syllabus	10 Marks	30 Min	20 Marks
	2	Assignments / Case Study / Presentations / Project / Group Discussion / Ind. Visit. / Tutorial	I & II	10 Marks	Minimum 30 Min per activity.	
II. External Examination for Theory Courses						
Semester End Examination	Question No	Paper Pattern (Theory question paper pattern: Attempt any two out of four questions)	Module	Marks	Time	Total Marks
	Q. 1	Define / Terminologies / Match the Column / Fill in the Blanks / Multiple Choice Questions (1 Marks each)	I & II	15 Marks	1 Hr.	30 Marks
	Q. 2	Short Notes / Problem. Attempt any Three Questions out of four. (a, b, c & d). (5 Marks each)	I & II	15 Marks		

	Q. 3	Essay Type Questions (Attempt any one out of two)	I	15 Marks		
	Q. 4	Essay Type Questions (Attempt any one out of two)	II	15 Marks		
Note:	1. To appear examination minimum prescribed attendance is compulsory. 2. All questions are compulsory 3. Individual Passing in Internal and External Examination is compulsory. 4. Certified Journal is compulsory for appearing at the time of Practical Exam.					

Sd/-

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