

As Per NEP 2020

University of Mumbai



Syllabus for Basket of Open Elective (OE)	
Board of Studies in Maritime Hospitality Studies	
UG First Year Program	
Semester	I
Title of Paper	Food Science and Nutrition (Theory)
Credits	2
From the Academic Year	From Academic Year: 2024-25

Sr. No.	Heading	Particulars
1	Description of the course:	Food Science and Nutrition (Theory) A change noticed in recent times in culinary field is awareness towards healthy eating. Today many of the people want to know the preparation method, total nutritional value of the food they are consuming and whether the safe food handling practices are followed or not in an establishment. Apart from skills of preparation and service of food, another sets of must have skills for any catering personnel is knowledge of food science and nutrition. It is important for planning a menu, procurement of raw materials, storage and pre-preparation of raw materials, cooking, holding, presentation and service of food. This knowledge also helps an individual with suggestive selling and interaction with guests.
2	Vertical: Major/Minor/Open Elective /Skill Enhancement / Ability Enhancement/Indian Knowledge System (Choose By √)	√ Open Elective.
3	Type:	Theory
4	Credit:	2 credits (1 credit = 15 Hours for Theory or 30 Hours of Practical work in a semester)
5	Hours Allotted:	30 Hours
6	Marks Allotted:	50 Marks
7	Course Objectives: The objective of the course is to familiarize yourself with food and personal hygiene in Food Service Industry and good housekeeping. They will also learn about HACCP, microbiology and food handling, basic nutrients, basic for meal planning, food preservation, foods adulteration, evaluation of foods & food laws.	

8	Course Outcomes: On completion of this module- the trainee shall be able to - Understand the importance of personal and food hygiene in Food Service Industry • Know about biological, chemical and physical food Hazards in HACCP. • Importance of Nutrition • Effect of cooking on various nutrients • Balanced diet and Basic for meal planning • Food preservation • Foods Adulteration • Sensory assessment of Food Quality • Foods laws, authorities, and related standards
9	MODULES: - MODULE 1: FOOD SAFETY. Introduction to Food safety Importance of Food Hygiene in Food Service Industry. Personal Hygiene - Hand wash programme. Cleaning Schedule, cleaning checklist, Cross contamination, Pest control, Dish washing methods - Manual & Machine. Microbiology Introduction to microbiology – Types of microorganisms, Factors favourable for bacteria growth, FATTOM, Time & Temperature Control, TDZ, Sources, symptoms & prevention of common pathogenic bacteria, Big Thaw, Rechauffe, Care in handling & maintenance of refrigerators, chiller & freezers, Hot & Cold Food Display & food holding units, Food Thermometers type & its use, Stock rotation, FEFO, FIFO, Date marking. HACCP A brief history of HACCP, Define Hazard, biological, chemical and physical food Hazards, Seven principles of HACCP. Food Hygiene on Board ship Port health inspectors, Vessel Sanitation Programme, CDC, USPH, USDA inspections, De-ratting certificates.
	MODULE 2: INTRODUCTION TO NUTRITION Importance of Nutrition - Basic Nutrients, Functions and sources of various Nutrients, Importance of water to the Human Body, Basic five food groups, Nutrients loss while storing or preparation of foods, Effect of cooking on various nutrients, Balanced diet, Basic for meal planning, Health concerns (dietary fibers, cholesterol, sodium), Food additives (Definition uses types) Food preservation - Chemical, Irradiation, Low temperature (Refrigeration and Freezing), High Temperature (Pasteurization, Canning, de-hydration and smoking). Storage – Guidelines for food storage, Correct use of refrigeration, freezer for storing food stocks, rotation and storage temperatures. Foods Adulteration - Common food Adulterants present: - a) Milk b) Sugar c) Turmeric d) Chilly Powder d) Tea and Coffee e) Semolina f) Ghee and Butter g) Margarine and Oil.

10	Textbooks: 1. Safe food handling : a training guide for managers, Text Book, CBS Pub. Delhi, Jacob, Michael, 1991,142p. 2. The prevention of food poisoning Text Book Stanley London Trickett, Jill, 3rd Ed. 1992 vi, 137p. 0-7487-152 3. Industry guide to good hygiene practice Text Book Chadwick London Chadwick 1995 vi,137p. 1-904306-4 4. Food microbiology Text Book McGraw-Hill New Delhi Frazier, W C,, 4th Ed.2005 xvi,539p. 0-07-46210 5. Food and nutrition Vol-1 Text Book Bappco Bangalore Swaminathan, M,, 2nd Ed. 2005 630p. 6. Food and nutrition vol-2 Text Book Bappco Bangalore Swaminathan, M,, 2nd Ed. 2005 544p. 7. Nutrition essentials and diet therapy Text Book Elsevier London Peckenpaugh, N J, 9th Ed. 2003 xvi,665p., 0-7216-953 8. Food microbiology Text Book McGraw-Hill New Delhi Frazier, W C, 4th Ed. 2005, xvi,539p., 0-07-46210 9. Hand book of food and nutrition Text Book Bappco Bangalore Swaminathan, M, 5th Ed., 2005 372p. 10. Food Hygiene and Sanitation Text Book Mc Graw –Hill New Delhi Roday, S, 2006 xvii,315p., 0-07-46317 11. Nutrition for foodservice, Text Book, John Wiley New Jersey Drummond, K E, 6th ed. 2007, xiii,668p. 0-471-5997
11	Reference Books: 1. Nutritive Value of Indian Food, Text Book, NIN Hyderabad, Gopalan, C, 2005, 161p. 2. Nutrition of the culinary Arts, Text Book, Pearson Delhi Berkoff, Nancy,, 1st 2007 375p. 8131713865 3. Food Science, Text Book, New Age Int. Chennai Srilakshmi, B., 6th, 2015 ix,490p. 9788122438 4. Food science and Nutrition, Text Book Oxford New Delhi Roday, Sunetra, 2nd 2013 xxi,408p. 1001980788 5. Food Microbiology Text Book New Age New Delhi Adams, M.R, 1ST 2015 xiii ,398p. 9788122410 6. Food Safety in the Hospitality Industry Text Book Routledge USA Tim, K, 1st 2011 vii,320p. 750653493 7. Food Poisoning and Food Hygiene Text Book CRC Press London McLauchlin, J, 7th 2007 xviii,412p. 9780340905 8. The Food Safety and Standards Act. 2006 Text Book Universal India Universal, 2019 907p. 9. A practical guide to food laws and regulations Text Book Bloomsbury New Delhi Prabhakar, K, 1st 2016 xxix, 232p. 9789386141

	10. Catering Science & Food Safety Text Book Apex Global Mumbai Thaokar, A, Deshmukh, S, 1st Edn. 2018 241p. 11. Nutrition Text Book Elsevier New York Marcus, J.B., 1st Edn. 2013 ix,648p. 12. Food science and nutrition Text Book Oxford New Delhi Roday, Sunetra, 3rd Edn. 2022 xxvii, 441p
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Examination

12	Internal Continuous Assessment: 40%	External Semester End Examination: 60%		
	Individual Passing in Internal and External Examination: 40%			
13	Continuous Evaluation through:	Class Tests, Assignment, Presentation, Project, Role play, Quizzes, Creative writing, etc. (Use minimum any 3 types)		
14	Format of Question Paper: for the final examination			
Nature of Examination	Bifurcation of Marks			
I. Internal Evaluation for Theory Courses				
Continuous Internal Assessment (CIA) Assignment	Sr. No	Examination	Unit	Marks
	1	Class Test	Unit I or on completed syllabus.	10
	2	Continuous Evaluation: Assignments / Case Study / Presentations / Project / Group Discussion / Ind. Visit. / Tutorial	I & II	10
II. External Examination for Theory Courses				
Semester End Examination	Question No	Paper Pattern (Theory question paper pattern: Attempt any two from four questions.)	Unit	Marks
	Q. 1	Define / Terminologies / Match the Column / Fill in the Blanks / Multiple Choice Questions (1 Marks each)	I & II	15
	Q. 2	Short Notes / Problem. Attempt any Three Questions out of four. (a, b, c & d). (5 Marks each)	I & II	15
	Q. 3	Essay Type Questions (Attempt any one out of two)	I	15
	Q. 4	Essay Type Questions (Attempt any one out of two)	II	15

Note:	1. For theory, attempt any two out of four questions. 2. Certified Journal is compulsory for appearing at the time of Practical Exam. 3. To appear examination minimum prescribed attendance is compulsory.
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Sign of the BOS Chairman
Dr Pankaj Deshmukh
Board of Studies in B. Sc.
Maritime Hospitality Studies

Sign of the
Offg. Associate Dean
Name of the Associate Dean
Name of the Faculty

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Offg. Dean
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