

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Home science		
Semester	II		
Name of the Course	Frozen Food Technology		
Course Code	B23-SEC-204		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	SEC		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary(10+2) or equivalent in any stream		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1.To understand the concept and types of freezing 2.To get knowledge about process of freezing and recent techniques 3.To get knowledge about effect of freezing on various parameters of food quality 4.To understand freezing and thawing of fruits & vegetables <hr/> <p>5*.To impart practical knowledge about preparation, storage and packaging of frozen foods.</p>		
Credits	Theory	Practical	Total
	2	1	3
Contact Hours	2	2	4
Max. Marks:75 Internal Assessment Marks:15(T) +5(P)=20 End Term Exam Marks: 35(T) +20(P)=55		Time:3hrs	

Part B- Contents of the Course

Instructions for Paper- Setter: The examiner will set nine questions in all, selecting four questions from each unit and one compulsory objective type question.

Instructions for the candidate: The candidates will attempt five questions in all, selecting atleast one question from each unit as well as compulsory questions.

Unit	Topics	Contact Hours
I	Freezing: need and effectiveness of freezing as food preservation, advantages and limitations of Frozen Food Quick and slow freezing, disadvantages of slow freezing Points to be kept in mind while selecting freezing method	10
II	Pre- treatment prior to freezing: blanching, dehydro freezing and osmotic dehydration. Freezing Technology: a) air or Still freezing b) air blast freezing c) Fluidized bed freezing d) indirect contact freezing e) Immersion freezing f) cryogenic freezing g) Tunnel freezing	11
III	Physical changes in Frozen Food. Effect of Freezing on texture, colour and flavour of food. Effect of freezing on principal constituents of food: a) Water. b) Protein , lipids And carbohydrates. c) Vitamins And minerals.	11
IV	Method of freezing fruits and vegetables. Introduction to thawing, changes during thawing and its effect on food .Future trends in frozen food technology.	10
V*	<ol style="list-style-type: none"> 1. To study basic equipments used for freezing 2. To learn the process of blanching :Boiling method & steam method 3. To freeze vegetables: Peas, corns, beans, carrot, tomato or any seasonal vegetables 4. To freeze fruits: apples, strawberries, mango, pineapple or any seasonal fruits 5. Storing in bags 6. Preparation of ice cream 	30

Suggested Evaluation Methods

<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> ● Class Participation: 04 ● Seminar/presentation/assignment/quiz/class test etc.: 04 ● Mid-Term Exam: 07 <p>➤ Practicum</p> <ul style="list-style-type: none"> ● Class Participation: Nil ● Seminar/Demonstration/Viva-voce/Lab records etc.:05 ● Mid-Term Exam: NA 	<p>End Term Examination:</p> <p>35</p> <p>20</p>
<p>Part C-Learning Resources</p>	
<p>Recommended Books/e-resources/LMS:</p> <ul style="list-style-type: none"> ● http://practicalaction.org/evaporative-cooling-in-india. ● http://www.akamaiuniversity.us/PJST10_2_935.pdf ● http://www.fao.org/climatechange/17850-0c63507f250b5a65147b736_4492c4144d.pdf ● Mudambi, S.V. and Rajagopal, M.V. 2001. Fundamentals of Foods & Nutrition. New Age International (P) Ltd. Publishers, New Delhi. 405p. ● Parker, R. 2003. Introduction to food science. Delmar Thomson Learning, New York. 636p. ● Roy, S.K. and Khardi, D.S. 1985. Zero Energy Cool Chamber. India Agricultural Research Institute, New Delhi, India. Research Bulletin No.43: 23-30. ● Tucker, G. and Featherstone, S. 2011. Essentials of thermal processing. John Wiley and Sons., Oxford. 288p 	

*Applicable for courses having practical component.

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Home science		
Semester	IV		
Name of the Course	Indian Food Nutrition		
Course Code	B23-VAC-327		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	VAC		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary(10+2) or equivalent in any stream		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To have knowledge about the food pyramid and benefits of traditional Indian foods. 2. To know the importance of functional foods & probiotics. 3. To get knowledge about cereal and millet based convenience foods. 4. Role of Indian spices, fruits & vegetables in Indian diets <hr/> <p>5*. NA</p>		
Credits	Theory	Practical	Total
	2	-	2
Contact Hours	2	-	2
Max. Marks:50 Internal Assessment Marks:15 End Term Exam Marks: 35		Time:3 hrs.	

Part B- Contents of the Course

Instructions for Paper- Setter: The examiner will set nine questions in all, selecting four questions from each unit and one compulsory objective type question.

Instructions for the candidate: The candidates will attempt five questions in all, selecting atleast one question from each unit as well as compulsory questions.

Unit	Topics	Contact Hours
I	Understanding Indian food, types of Indian foods and foods consumed in different regions of India. Advantages of traditional Indian diets. Indian food pyramid: a way to balanced diet, My plate concept	7
II	Food terminology : functional food, nutraceuticals, convenience foods, health food, designer food, probiotics, ,prebiotics, intermediate moisture foods, hurdle Technology Present & future scope of functional foods Use of traditional fermented food as a source of probiotics	6
III	Cereal based traditional Food: snack foods: Fried, fermented & traditional sweets ready to cook convenience foods millet based traditional food: nutritive value of millet convenience foods of millet	8
IV	Major healthy foods in Indian cuisine Health benefits of major Indian spices Fruit and Vegetable based convenience foods	7
V*		

Suggested Evaluation Methods

<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> ● Class Participation: 4 ● Seminar/presentation/assignment/quiz/class test etc.: 4 ● Mid-Term Exam: 7 <p>➤ Practicum</p> <ul style="list-style-type: none"> ● Class Participation: -- ● Seminar/Demonstration/Viva-voce/Lab records etc.: ● Mid-Term Exam: -- 	<p>End Term Examination:</p> <p>35</p> <p>NA</p>
<p>Part C-Learning Resources</p>	
<p>Recommended Books/e-resources/LMS:</p> <ol style="list-style-type: none"> 1. Srilakshmi, B. (2017) Food Science (2nd edition). New Age International Pvt. Ltd. Publishers: New Delhi. 2. Maney S (2008). Foods, Facts and Principles, 3 rd Edition Published by Wiley Eastern, New Delhi. 3. Usha Chandrasekhar (2002) Food Science and Application in Indian Cookery, Phoenix Publishing House P. Ltd., New Delhi. 4. SunetraRoday (2017). Food Science and Nutrition, Oxford University Press, New Delhi. 5. Longvah, T, Ananthan, R., Bhaskarachary, K., Venkaiah, K (2017). Indian Food Composition Tables (IFCT), Indian Council of Medical Research, National Institute of Nutrition, Hyderabad. 6. Raina U, Kashyap S, Narula V, Thomas S Suvira, VirS, Chopra S (2010) Basic Food Preparation: A Complete Manual, 4th Edition, Orient Black Swan Ltd, Mumbai. 7. Rajalakshmi, R. (1990) Applied Nutrition (3rd ed.) Oxford and IBH Pub. Co. Pvt. Ltd.: New Delhi. 8. Mudambi, S.R. and Rao S. Fundamentals of Food & Nutrition. (2nd ed.) Wiley Eastern Ltd.: New Delhi. 	

*Applicable for courses having practical component.

Session: 2023-24			
Part A – Introduction			
Subject	Bachelor of Home science		
Semester	IV		
Name of the Course	Baking Techniques		
Course Code	B23-VOC-103		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	VOC		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary(10+2) or equivalent in any stream		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1.To have knowledge of ingredients used in baking 2.To know about role of leavening and Moistening agents 3.To obtain knowledge about cake preparation, their faults and decoration ideas. 4. To enable the students to have knowledge of breadmaking <hr/> <p>5*.To have practical knowledge of baking and preparation of bakery items.</p>		
Credits	Theory	Practical	Total
	2	2	4
Contact Hours	2	4	6
Max. Marks:100		Time:3hrs(T) 4hrs(P)	
Internal Assessment Marks:15(T) +15(P)=30			
End Term Exam Marks: 35(T) +35(P)=70			
Part B- Contents of the Course			

Instructions for Paper- Setter:The examiner will set nine questions in all, selecting four questions from each unit and one compulsory objective type question.

Instructions for the candidate: The candidates will attempt five questions in all, selecting atleast one question from each unit as well as compulsory questions.

Unit	Topics	Contact Hours
I	Introduction to Bakery, different bakery products, Bakery equipments. Basic Materials Used in Bakery and their role in baking. Flours And Flour Mixtures: Types of flours & suitability of flours for bakery products, flour selection, properties and specifications	07
II	Egg, Fats & oils: Types & functions of fats & oils in bakery products. Sweeteners: Types of sugars & functions. Leavening agents: Types; a) Biological leaveners b) Chemical leaveners c) Commonly used leavening agents .Moistening Agents	08
III	Cakes: Different types of cakes. Cake making techniques & General Precautions in cake preparation . Cake decoration and Cake faults & causes	07
IV	Some terms used in Process of Bread making: Fermentation, leavening, Pouching the dough, Fermentation of the sponge, Dividing & scaling, Rounding, Intermediate proofing, Moulding, Pan proofing, Baking the bread, Slicing & packaging. Essential and optional Ingredients used in bread .Bread quality: External and Internal Characteristics	08
V*	<ul style="list-style-type: none"> ● Study of various types of baking equipments; ● Type of baking ingredients, flour, yeast, salt and their uses; ● Preparation and cost calculation of different types of bakery products: Traveller's cake, Pineapple cake, Coffee walnut cake, Biscuit & Nan khatai, Pizza, Pastry, Garlic Bread, Red velvet cake and Muffins ● Cake decoration 	52

Suggested Evaluation Methods

<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> ● Class Participation:04 ● Seminar/presentation/assignment/quiz/class test etc.:04 ● Mid-Term Exam:07 <p>➤ Practicum</p> <ul style="list-style-type: none"> ● Class Participation:05 ● Seminar/Demonstration/Viva-voce/Lab records etc.:10 ● Mid-Term Exam:NA 	<p>End Term Examination:</p> <p>35</p> <p>35</p>
<p>Part C-Learning Resources</p>	
<p>Recommended Books/e-resources/LMS:</p> <ul style="list-style-type: none"> ● Dubey, S.C. (2017). Basic Baking, 5th Edition, ChanakyaMudrakPvt. Ltd., New Delhi. ● Rainact, AL. (2013). Basic Food Preparation – Complete Manual, 3rd Edition, Orient Longman Pvt Ltd., Mumbai ● Manay, S &Shanaksharaswami, M. (2014).Foods : Facts and Principles, New Age Publishers, New Delhi 	

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