

ADVANCED FOOD SCIENCE - II

Sem	Subject Code	Category	Lecture		Theory		Practical	Credits
II	21CPFN2A	Core paper IV	Hrs/sem	Hrs/Per week	Hrs/sem	Hrs/Per week	----	5
			90	6	90	6		

COURSE OBJECTIVES

The students will be able to

1. To know the basic concepts about different foods and nutrients.
2. To develop the scientific attitude of the students towards the principle of food science.
3. To obtain the knowledge of composition and nutritive value of different foods.
4. To know the impact of cooking on various foods.

COURSE OUTCOMES

On the successful completion of the course, students will be able to

CO Number	CO Statement	Knowledge Level (K1 – K4)
CO1	Understanding the composition and nutritive value of Milk and Milk Products	K1-K2
CO2	Understanding the composition and nutritive value of Fleshy foods	K1-K2
CO3	Understanding the composition and nutritive value of Eggs, Fats and Oils	K1-K2
CO4	Understanding the composition and nutritive value of Sugar and its Products, Spices and Condiments	K1-K2
CO5	Understanding the composition and nutritive value of Beverages. To become proficient for specialization in nutrition	K3-K4

Knowledge level: K – Remember, K2 – Understand, K3 – Apply, K4 – Analyse.

MAPPING WITH PO

COS	PO1	PO2	PO3	PO4	PO5
CO1	S	S	S	M	M
CO2	S	S	S	M	M
CO3	S	S	S	M	M
CO4	M	M	M	M	M
CO5	M	S	M	S	S

S – Strong, M – Medium, L – Low

UNIT I**18 Hours**

Milk and milk products – Composition and nutritive value, Principles of milk cookery, Milk protein, coagulation, problems in milk cookery. Effect of cooking and processing on milk. Role of milk in cookery. Various defects in milk products. Problems Encountered in Cooking Milk Kinds of Milk, Types of Milk Products- fermented and non- fermented products

UNIT II**18 Hours**

- a) Meat – Nutritive values, methods of cooking – Post mortem changes in meat - rigor mortis, tenderization of meat, ageing of meat, factors affecting tenderness – organ meat.
- b) Fish – classification, Nutritive value – selection, methods of cooking. spoilage of fish- microbiological, physiological, biochemical
- c) Poultry –Classification, Composition and Nutritive value, egg proteins, deterioration of egg quality

UNIT III**18 Hours**

- a) Eggs – Structure, composition, Nutritive value, selection, uses of eggs in cookery, methods of cooking eggs. Factors affecting coagulation and foam formation, Testing freshness in Egg. Uses of Egg in Food. Preparation and Storage of Eggs.
- b) Fats and oils –Changes in Fats and Oils during heating and storage, properties of fat; Oil composition and the properties; Refining of oil and winterization; Sources of fat and its shelf life; Quality changes in fat/oil during storage and prevention of fat spoilage; Role of fat/oil in food products.
- c) Sugar and sugar related products – Properties of sugars and sweeteners: Sugars, syrups, sugar alcohols, potent sweeteners, sugar products; Role of sweetener in food products. Crystal formation, factors affecting, types of candies, Action of Acid, Alkalies and Enzymes

UNIT IV**18 Hours**

Food Colours and Flavours: Pigments classification, structure and properties; Effects of processing on stability of pigments in foods and the factors influencing stability of colours in foods; Role of colours in food products; Flavors: Taste and nonspecific saporous sensations, Flavour compounds in vegetables, fruits and spices; Flavours produced from fermentation and volatiles on foods; Effect of processing on food flavours; Role of flavours in food products.

UNIT V**18 Hours**

Evaluation of Food Quality – Sensory Evaluation, Sensory characteristics of food, Conducting Sensory Tests, Evaluation Card, Types of Tests, Difference Tests, Rating Tests, Sensitivity Tests, Objective Evaluation, Instruments used for Texture Evaluation, Latest Techniques in Evaluating the food quality.

TEXT BOOKS:

S.No.	AUTHORS	TITLE	PUBLISHERS	YEAR OF PUBLICATION
1.	B.Srilakshmi	Food Science	New Age International Private Ltd.,	2002
2.	Swaminathan	HandBook of Food Science and Experimental Foods	Bappco, Bangalore	1992
3.	N. ShakuntalaManay, M. Shadaksharaswamy	Foods and Principles	New Age International Publishers	2001
4.	Mudambi, S.R. Rao, S.M	Food Science	Wiley Eastern Ltd, New Delhi	1986
5.	Potter, N. and Hotch Kiss, J.H.	Food Science	CBS Publishers and Distributors, New Delhi	1996

REFERENCE BOOKS:

S.No.	AUTHORS	TITLE	PUBLISHERS	YEAR OF PUBLICATION
1.	Helen Charley	Food Science	Wiley Eastern Ltd, New Delhi	1986
2.	A.G. Peckam	Foundation of Food Preparation	CBS Publishers and Distributors, New Delhi	1996
3.	NIIR Board	Handbook on Fruits, vegetables & Food processing with canning & preservation, 2nd edition,	Asia pacific business press inc., Delhi-7.	-
4.	Mudambi, R.S. and Rajagopal, M.Y	Fundamentals of Food and Nutrition	Wiley Eastern Limited New Delhi	1991
5.	Potter. N.M.and Birch, G.G	Food Science, 5th edition	CBS Publishers and Distributors, New Delhi	2007

WEB SOURCES:

1. <https://www.cbsenetonline.in/updated-cbse-ugc-net-syllabus-for-home-science>