

ADVANCED FOOD SCIENCE - I

Sem	Subject Code	Category	Lecture		Theory		Practical	Credits
I	21CPFN1A	Core paper I	Hrs/sem	Hrs/Per week	Hrs/sem	Hrs/Per week	----	4
			90	6	90	6		

COURSE OBJECTIVES

The students will be able to

1. Obtain knowledge of different food groups based on their classification and nutritive value
2. Understand the scientific principles underlying food preparation and different methods of cooking foods.
3. Develop skill and techniques in food preparation with conservation of nutrients and palatability using cooking methods generally employed.

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 basic food groups and its nutrients	K2
CO2	Learning the different methods of cooking on acceptability and Palatability	K2
CO3	Learning composition and nutritive value of cereal and its Products	K2
CO4	Understanding the composition and nutritive value of Pulses and Nuts	K2
CO5	Understanding the composition and nutritive value of Vegetables and Fruits. To become proficient for specialization in nutrition	K2, K3, K4

Knowledge level: K1 – 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**

Concept of food and nutrients, physiochemical properties of food, colloidal system in foods- types properties of colloids. Sols, gels- Properties, factors influencing gel formation.

UNIT-II**18 Hours**

Emulsions- Nature, surface activity, types of surface films, common food emulsifies, functions of emulsifying agents. Foams- Theory of foam formation, stages of foam formation, factors affecting foam formation, and stability of food foams.

UNIT-III**18 Hours**

Cereals and millets- classification, nutritional composition, structure, principles of cookery- gelatinization, retro gradation, and dextrinization, cereal protein- gluten, factors affecting gluten formation. Effect of cooking on nutritive value, points to be considered while cooking cereals, role of cereals in cookery. Pulses- Digestibility of pulses, toxic constituents in pulses, effect of cooking, factors affecting cooking quality of pulses, role of pulses in cookery.

UNIT-IV**18 Hours**

Pulses – Composition, Nutritive value of grams, Effect of cooking on Pulses.

Nuts - classification, nutritional composition, structure, digestibility of nuts, toxic constituents, role of nuts and oil seeds in cookery.

Fruits & Vegetables – Classification, Composition and Nutritive value, Pigments, Enzymatic Browning.

UNIT-V**18 Hours**

Fats & oils – Sources, properties, kinds, effect of heating on fat, role of fat in cookery, rancidity of fat and its prevention. Sugars- sources, uses, properties, principles of sugar cookery. Syrup- stages of sugar cookery and crystalline and non-crystalline candies.

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.	Manay. N.S	Foods – facts and principles	New age International Pvt. Ltd. Publishers, Newdelhi	1996
4.	Swaminathan. M	Food Science and Experimental Foods	Ganesh and Co, Chennai,	1988
5.	Sharma.A	Text book of Food Science & Technology, 1st edition	International Book Distributing Co.,	2006
6.	Roday.R	Food Science & Nutrition	Oxford University Press	1999
7.	Jan. S	Elements of Food Science	New India Publishing Agency, New Delhi-88	-

WEB SOURCES:

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