

SARDAR PATEL UNIVERSITY

Programme: B.Sc (Home Science)

Semester: IV

(Food & Nutrition)

Syllabus with effect from: November/December-2012

Theory

Objectives:

This course will enable students to:-

- Get acquainted with the composition of different food stuffs.
- Understand the chemistry of foods and food systems.
- Apply the theoretical aspects in ensuring food quality.

Paper Code:UH04CFDN02	Total Credit: 3
Title Of Paper: Foods Science	

Unit	Description in detail	Weighting (%)
I	Introduction to food science, approach to the study of food science and its scope. Physical foundation of food science solids and amorphous foods, liquids and role in food products, gases and role in products, true solutions, dispersions & suspensions, sols, gels, foams and emulsions.	15%
II	Moisture in foods, structure & hydrogen bonds & states of water, water activity & food stability	10%
III	Carbohydrates: Classes and types, chemical reaction in food hydrolysis, thermal degradation, dehydration, caramalization, maillard reaction, applications in food industry & other sweetening agents	15%
IV	Lipids: Physio-chemical properties of fat & application in food preparation, shortenings- shortening value and factors affecting it, fat substitutes determination of fats/oils rancidity reversion & polymerization	15%
V	Proteins: Physio-chemical properties of protein, hydration solubility viscosity gelation emulsification binding foams changes on cooking, denaturation, coagulation etc.	20%
VI	Enzymes: Nomenclature definite specificity, catalysis regulation enzyme modification of food by endogenous enzyme, enzyme inhibitor in food Vitamins and mineral structure (in brief)	10%
VII	Pigments endogenous to food, structure, chemical and physical properties, effect of processing and storage Flavours- vegetables and fruits and spice flavours.	15%

Basic Text & Reference Books

- Birch, G.G.(1977) Sensory properties of foods applied science PublicationCharley Helen (1982) Food Science 2nd edition Macmillan Publishing Co.
- Encyclopedia of Food technology AVI Publications.
- Fennema, O.R. (1985) Food Chemistry 2nd edition Macrel Dekker inc. N.Y.
- Ronsivalli, L.J. and Vieira, E.R. (1992) Elementary food science 3rd edition Chapman & Hall New York.
- Swaminathan, M. (1982) Food Science, Chemistry, and Experimental foods Bangalore printing and publishing co. ltd. (BAPPCO).

