GUJARAT TECHNOLOGICAL UNIVERSITY

B.E Semester: 3

Food Processing & Technology

Subject Code
Subject Name FOOD CHEMISTRY

Sr.No	Course contents
1.	MOISTURE IN FOODS: Structure, Properties, Types of water in food and their specific function, Water activity and stability.
2.	LIPIDS: Classification, Structures, Physical and chemical properties, rancidity and its types, Hydrogenation, Refining of oils, Margarine and importance in diet.
3.	CARBOHYDRATES: Definition, Classification, Functions, Properties of simple & complex carbohydrates.
4.	PROTEINS: Introduction, Sources of protein, Classification and structures, Nutritive, Physicochemical properties, Nutritive and supplementary value of food proteins, Denaturation and its implications, Gel formation and its theories. Effect of processing on food proteins.
5.	PIGMENTS: Introduction and significance of natural pigments in food - Chlorophylls, Carotenoids, Haemoglobin and Myoglobin, Anthocyanins, Flavonoids, Betalains Tannins,
6.	MINERALS: Main elements and trace elements in different food, Functions, sources, deficiency diseases and RDA.
7.	FOOD ADDITIVES: Definitions, uses and functions of: Acids, Bases, Buffer system, Chelating / sequestering agents, Low calorie and non-nutritive sweeteners, Antioxidants, Emulsifying and Stabilizing agents, Anti-caking agents, Thickeners, Firming agents. Flour bleaching agents and Bread improves. Anti-microbial agents/class-I and Class –II preservatives, clarifying agents.

Reference Books:

1. Food Chemistry by L H Meyor (CBS Publisher, Delhi)
2. Food Facts and Principal by N. Shakuntala Manay & M. Shadaksharaswamy (New Age International (P) Ltd. Publishers, New Delhi)
3. Food Chemistry by O.R. Fennema, 2nd edn. (Marcel Dekkar Inc.)
4. Food Chemistry by H D Belitz and W. Groech (Springer Publ.)
5. Food Additives by S.N. Mahindru
6. Food Processing and Preservation by B.Siavsankar (Prentice Hall India)