

BHARATHIAR UNIVERSITY, COIMBATORE
B.Sc. FOOD SCIENCE AND NUTRITION (colleges)
(Effective from the academic Year 2016-2017)

Note: The revised syllabus for the Core Paper II: semester I - CHEMISTRY OF FOODS furnished below be followed and there is no change in the existing scheme of examination and syllabi of remaining papers.

Semester I: Core Paper-II
CHEMISTRY OF FOODS
Hours of instruction / week: 3

Objectives:

To enable students to understand the chemical nature and reactions in foods

UNIT – I

Structure of carbohydrates, Protein, fat, Pigments, Vitamins and Minerals. Properties of Foods, Chemical, Functional and Kinetic Properties.

UNIT –II

Colloidal system in foods – meaning, types, properties. Sols – meaning, types, properties: gels – meaning, type, properties, theory of gel formation, factors influencing gel formation.

UNIT – III

Emulsion – meaning, types, properties, emulsifying agents, natural and synthetic emulsifier, functions of emulsifying agent, common food emulsions: foams – meaning, methods of foam formation, theory of foam formation, properties – factors influencing foam formation, factors affecting stability of foam, foaming agents – natural and synthetic.

UNIT – IV

Water – forms and types of water, hydrogen bonding in water, water and ice properties, functions of water in food, intermediate moisture foods, water activity – definition, measurement and control of water activity, estimation of moisture in foods.

UNIT – V

Heat transfer operation in foods – conduction, convection, radiation, gelatinization, retrogradation, dextrinisation of starches, enzymatic and non enzymatic browning reaction in foods, rancidity – types and prevention.

Reference Books:

1. Food science, Chemistry and Experimental foods by M. Swaminathan.
2. Food Science by Norman.N.Potter.
3. Experimental study of Foods by Griswold R.M.
4. Food Science by Helen Charley.
5. Foundation of Food Preparation by A.G. Peckam.
6. Modern Cookery for teaching and trade, volume I&II ,Thangam Philip. OrientLongmans Ltd.
7. Food Fundamentals by MacWilliams, John Willy and son's, New York.
8. Food Facts & Principles by Shakunthala manay & Shadakhraswamy.
9. Food Science by Srilakshmi , second edition,2002.