

2.8 30708 FUNDAMENTALS OF FOOD TECHNOLOGY

UNIT-1

- 1.1 Compositional, Nutritional and Technological aspects of Plant foods I. Cereals and Millets
- 1.2 Structure and composition of cereals
- 1.3 Wheat- structure and composition, types (hard, soft/ strong, weak) Diagrammatic representation of longitudinal structure of wheat grain.
- 1.4 Malting, gelatinization of starch, types of browning- Maillard & caramelization.
- 1.5 Rice- structure and composition, parboiling of rice, advantages and disadvantages.
- 1.6 Pulses Structure and composition of pulses, toxic constituents in pulses, processing of pulses soaking, germination, decortications, cooking and fermentation.

UNIT-2

- 2.1 Fats and Oils, Classification of lipids, types of fatty acids, saturated fatty acids, unsaturated fatty acids, essential fatty acids, trans fatty acids
- 2.2 Refining of oils, types, steam refining, alkali refining, bleaching, steam deodorization, and hydrogenation.
- 2.3 Rancidity, Types, hydrolytic and oxidative rancidity and its prevention.

UNIT-3

- 3.1 Fruits and Vegetables Classification of fruits and vegetables, general composition, enzymatic browning, names and sources of pigments, Dietary fibre.
- 3.2 Post-harvest changes in fruits and vegetables, Climacteric rise, horticultural maturity, physiological maturity, physiological changes, physical changes, chemical changes,
- 3.3 Pathological changes during the storage of fruits and vegetables.

UNIT-4

- 4.1 Compositional, Nutritional and Technological aspects of Animal foods, Flesh Foods - Meat, Poultry
- 4.2 Meat - Definition of carcass, concept of red meat and white meat, composition of meat, marbling, and post-mortem changes in meat- rigor mortis, tenderization of meat, ageing of meat.
- 4.3 Poultry, Structure of hen's egg, composition and nutritive value, egg proteins, characteristics of fresh egg, deterioration of egg quality, difference between broiler and layers.

UNIT-5

- 5.1 Milk and Milk Products Definition of milk,
- 5.2 Chemical composition of milk, its constituents, processing of milk, pasteurization, homogenization. An overview of types of market milk and milk products.

Reference Books:

1. Bawa. A.S, O.P Chauhan etal. Food Science. New India Publishing agency, 2013
2. Roday, S. Food Science, Oxford publication, 2011.