Food Technology

C. V. Raman Global University, Odisha

MODULE 1: National and international Food Laws and Standards - 9 Lecture hours

International Food Control Systems/ Laws, Licensing and registration, Standards of Quality and Safety of Food ,Regulations of food additive ,Packaging and labelling rules and regulations, Laboratory sampling and analysis

MODULE 2: Principles of Food Preservation, Processing and Packaging- 12 lecture hours

Food Processing Operations: Manufacturing processes, Centrifugation,
Food Preservation by heat, Food Packaging, Evaluation of quality and safety of packaging materials, Functions of Packaging, Newer packaging technologies

MODULE 3: Principles and Basics of Human Nutrition- 7 Lecture hours

Water, Recommended daily allowance (RDA), Basic metabolic rate (BMR), Carbohydrate,, Diabetes.Lipids, Cholesterol role in cardiovascular disease, Protein, Vitamins: Deficiency diseases toxicity, sources, and function. Minerals: Macronutrient deficiency diseases, Overnutrition, Undernutrition, Malnutrition (Kwashiorkor & Marasmus)

Food allergens, Allergenicity and Inborn errors of metabolism

Diet and Health: Diabetes, cancer, stroke, hypertension, heart health

MODULE 4: Food Chemistry and microbiology – 9 lecture hours

Water, Carbohydrates, Proteins and amino acids, Globular& Fibrous protein, Hierarchy in structure (primary, secondary, tertiary), isoelectric point, Protein denaturation, digestibility, Lipids: *Vitamins*: *Additives*: *Genetically modified organism (GMOs): Food contaminant and adulterants*:

MODULE 5: Physical, Chemical and Instrumental analysis- 11 lecture hours

Sampling and sample preparation, Principle, Instrumentation and applications of each technique in food analysis

UV-Visible and Fluorescence Spectrometry:

Chromatographic techniques:

High Performance Liquid Chromatography (HPLC):

Hyphenated Techniques: Mass Spectrometry and Chromatography Coupling. GC- MS/MS, LC-MS/MS

Biological Techniques; Radioimmunoassay (RIA).

Quality assurance and Quality control:

Exp1:   Determination of Moisture content of food samples

Exp2:   Determination of total Ash   content of food samples

Exp3: Determination of acid insoluble ash (Dry basis) of food samples

Exp4: Determination of protein content of food samples

Exp5: Determination of carbohydrates of food samples

Exp6: Determination of Fat content of food samples

Exp7: Determination of ascorbic Acid of Milk samples

Exp8: Determination of pH Value @ 25°C of Drinking water

Exp9: Determination of Conductivity @ 25°C of Drinking water

Exp10: Determination of turbidity of Drinking water

Exp11: Determination of total Hardness(as CaCo3)of Drinking water

Exp12: Determination of Sulphate (as SO4) of Drinking water