

Syllabus for TO-B (1)

Fundamentals of Food & Nutrition

- Classification of nutrients based on the chemical composition

Introduction to foods

- Composition, Nutritive Value, Nutrient losses during Processing of commonly consumed Cereals, Millets, Pulses, and Legumes
- Toxic Constituents – Trypsin Inhibitors, Lathyrogens, Favism, Haemagglutinins, Cyanogenic Glycoside, Saponins and Goitrogens
- Vegetables - Classification, Composition, and Nutritive Value, Changes during cooking, Loss of nutrients during cooking, Storage, and Factors affecting storage.

Nutrition through Lifecycle

- Pre-Schoolers – Nutritional Requirement, Factors Affecting Nutritional Status
- School Going Child – Nutritional Requirement and School Lunch Programs
- Adolescence – Nutritional Requirement, Eating Disorders
- Adulthood – Nutritional Requirements for an Adult Man and Adult Woman
- Pregnancy – Physiological Changes, Increase in Nutritional Requirement, Complications of Pregnancy
- Lactation – Role of hormones in milk production, Increase in Nutritional Requirement and Lactagogues
- Infancy – Nutritional Requirement, Importance of Breastfeeding, Artificial Feeding (Comparison of various kinds of milk Vs Human Milk), Weaning and Supplementary Food
- Geriatrics – Nutritional Requirement, Physiological Changes, and Dietary Modification

Community Nutrition & Public Health Education

- Principles of Community Nutrition
- Methods of Nutritional Assessment
- Epidemiology of Communicable Diseases
- Measures to Combat Malnutrition & Vital Statistics
- Nutrition Intervention Programs

Nutritional Biochemistry

- Carbohydrates – Classification, Functions, Dietary sources, requirement, Digestion, and Absorption, Dietary fiber, glycemic load & index.
- Steps in Glycolysis, Tri Carboxylic acid Cycle.
- Basics of energy metabolism, nutrition & dietetics - Unit of measuring energy, the calorific value of food, BMR & factors affecting it
- Lipids - Classification, Functions, Dietary Sources, requirements, Digestion, and Absorption
- β - Oxidation of Fatty Acids and biosynthesis
- Essential fatty acids
- Amino acids - Nutritional Significance, Classification – based on the nutritional requirement (essential, semi and non-essential amino acid) and Dietary Sources.
- Proteins - Classification – based on function, Functions, Dietary sources, Recommended Dietary Allowance, Deficiency, Digestion, and Absorption.
- Evaluation of Protein Quality-Protein Efficiency Ratio, Digestibility Coefficient, Biological Value, Net Protein Utilization, and Net Protein Ratio.
- Vitamins & Minerals - Classification, Functions, Dietary sources, requirements, Deficiency & Toxicity
- Water and Electrolyte Balance in the Body
- Acid-Base balance in the body

Human Physiology

- Cell - Structure and function