

Course Code	Course Name	Credits
26BT904	FOOD AND NUTRITION	04

Course Objectives

- To explain the importance of food and nutrition in health.
- To describe functions and sources of major nutrients.
- To analyze the role of nutrients and energy in the body.
- To apply principles of balanced diet planning.
- To evaluate the importance of vitamins and minerals in health.

Learning Outcomes

Upon successful completion of this course it is intended that a student will be able to:

- Define food, nutrition, and balanced diet concepts.
- Classify food groups and nutrient functions.
- Explain digestion, absorption, and deficiency of nutrients.
- Analyze energy requirements and BMR factors.
- Evaluate the role of vitamins and minerals in maintaining health.

Unit 1 - Food and its Importance (12 Hrs.)

Definition-food, nutrition, optimum nutrition. Functions of foods- physiological, psychological and social functions. Basic five food groups. Balanced diet- definition and objectives, food guide pyramid and its uses.

Unit 2 – Nutrition (12 Hrs.)

Nutrients, Nutritional Status, Health. Carbohydrates –Nutritional classification, Function, Digestion and Absorption, effects of deficiency, sources and requirements Fibre- Definition, Types, and Role of fibre in health.

Unit 3 - Biomolecules (12 Hrs.)

Protein: Protein- Nutritional value, Functions, Digestion and Absorption, Sources and Requirements, Deficiency. Lipids value, Functions, Digestion and Absorption, Sources and Requirements, Deficiency. Essential fatty acids – Functions, Sources.

Unit 4 – Energy (12 Hrs.)

Energy - Units of energy - Calorie, Joule, Determination of energy content of foods: Basal Metabolic rate (BMR), Determination of BMR (Benedict's oxy calorimeter), Factors affecting BMR. Thermic effect of food, Factors affecting Thermic effects of food.

Unit 5 - Vitamins and Minerals (12 Hrs.)

Vitamins: Fat Soluble Vitamins (A, D, E, K): Functions, Sources, Requirements, Deficiency and Excess. Water Soluble Vitamins (B1, B2, B3, B4, B6, B12 & C).

Reference Books:

1. Srilakshmi B. Nutrition Science. New Age International (P) Ltd, New Delhi. 5th Edition, 2008.
2. Ambika Shanmugam, Fundamentals of Biochemistry for Medical Students. New Age Publishing Pvt. Ltd., New Delhi. 7th Edition 1986.
3. Gopalan C. et al., Nutritive value of Indian Foods, ICMR. 1991.
4. Swaminathan M. Essentials of Food & Nutrition. Ganesh & Co. Vols I & II Madras. 1985.
5. Williams S.R. Basic Nutrition & Diet Therapy. Mosby, Inc. St. Louis. 11th Edition, 2001.