

Food and Nutrition

Course Outcome:

- The students will get basic knowledge on macro and micro nutrients and different types of food and their nutritional contribution.
- The students will gain practical knowledge on market survey and locally available food stuffs from each food group.

Learning Outcome:

- The students will learn the basic concepts in food, nutrition, and health.
- The students will gain an insight into the classification, functions, dietary sources, and daily requirements of various nutrients.

The students will understand about different food groups and their nutritional contribution

Unit-I: Basic Concepts in Food and Nutrition

- Introduction to Food and Nutrition Science- Definitions (food, food science, food additive, fermented food, food fortification, functional food, nutrition, health, nutrients, nutritional status, optimal nutrition, nutrition security).
- Classification and Functions of Food- Physiological, psychological, and socio-cultural.
- Food Groups- Basic five and seven food groups, their nutritional contribution.
- Methods of Cooking- Different methods of cooking and their advantages and disadvantages: Dry methods - Frying, Sautéing, Parching, Roasting, Grilling/Broiling, Toasting, And Baking. Moist methods - boiling, steaming, stewing, simmering, poaching, blanching, pressure cooking. Combination method- braising.

Unit-II: Macro Nutrients

- Carbohydrates- Introduction, classification, functions, dietary sources, and daily requirement.
- Proteins- Introduction, classification, functions, dietary sources, and daily requirement.
- Lipids- Introduction, classification, functions, dietary sources, and daily requirement.

Unit-III: Micro Nutrients:

- Fat Soluble Vitamins (A, D, E and K)- Introduction, functions, dietary sources, daily requirement, and deficiency diseases.
- Water Soluble Vitamins (Thiamin, Riboflavin, Niacin, Folate, Vitamin B12 and Vitamin C)- Introduction, functions, dietary sources, daily requirement, and deficiency diseases.
- Minerals (Calcium, Iron, Zinc, and Iodine)- Introduction, functions, dietary sources, daily requirement, and deficiency diseases.

Text Books:

- ✓ *Srilakshmi. B, Food Science, New Age International (P) Limited Publishers.*
- ✓ *Srilakshmi. B, Nutrition Science, New Age International Pvt. Ltd.*
- ✓ *N. Shakuntala Manay, M. Shadaksharaswamy, Foods Facts and Principles, New Age International (P) Limited Publishers.*
- ✓ *Swaminathan. M, Advanced Text-Book on Food and Nutrition, Volume 1 and 2, The Bangalore printing and publishing co. LTD.*

Reference Books:

- ✓ *Bamji MS, Krishnaswamy K. Brahman GNV. Textbook of Human Nutrition, Oxford and IBH publish Co Pvt. Ltd.*
- ✓ *Norman. N Potter, Joseph H. Hotchkiss, Food Science, 5th edition, CBS Publishers, and Distributors.*
- ✓ *Mudambi S.R and Rajagopal M.V, Fundamentals of foods and Nutrition, New Age International Pvt. Ltd.*

- ✓ *Gopalan, C. Rama Sastry, B.V., and Balasubramanian, S.C., Nutritive value of Indian Foods, National Institute of Nutrition, ICMR, Hyderabad.*

E-RESOURCES:

- <http://www.nutrition.gov>
- <http://www.usda.gov>
- <http://egyankosh.ac.in>
- <http://ecourses.icar.gov.in>

MODEL QUESTIONS

1. Name the fat-soluble vitamins. **(One word)**
2. Define Nutrition. **(Maximum 50 words)**
3. Discuss about the classification of carbohydrate. **(Maximum 250 words)**
4. Explain the classification and functions of food. **(Maximum 800 words)**