

Subject Description: The above course is offered to collect in depth knowledge about physical and chemical properties of foods, food groups, nutrients and RDA throughout lifecycle, nutritional assessments, and the related diseases.

Pedagogy:

The topics will be covered by lecture sessions. Assessments will be done via assignments and quiz to understand the progress. Students are required to work on a research paper that involves recent review on allied areas.

Objectives: To enable students

1. Understand the vital link between nutrition and health
2. Gain knowledge on functions, metabolism and effects of deficiency of nutrients

UNIT-I INTRODUCTION TO FOOD AND NUTRIENTS:

Foods & Food Groups, Novel foods and processed foods, Food Pyramid, Recommended Dietary Allowance- RDA for Foods, Significance of Nutrients in Foods- Carbohydrates, Proteins, Fats, Vitamin and minerals, antioxidants, fiber, water etc. Nutritional requirement (RDA) and food security, Meal planning, Balanced diet, Energy value and Basal Metabolic Rate.

UNIT -II NUTRITION THROUGHOUT LIFECYCLE:

Nutritional needs and recommendation in pregnancy, lactation, infancy, preschool, school going, adolescents, adults and old age.

UNIT -III NUTRITION IN DISEASES

Dietary modification, types of diets, diet during deficiency, Diet **during diseases**- Anemia, kidney disease, liver disease, fever, ulcers, cancers, food allergies, cardiac diseases, gastro intestinal problems, Diabetes, alcoholism, nutrition during emergency. Diet during weight management- Underweight and Obesity. Sports nutrition, food based home remedies for common ailments. Special nutritional need: Sports nutrition, Autism, ADHD, Extreme climatic conditions, High altitude and space nutrition; Nutrition during natural calamities etc.

UNIT -IV NUTRITIONAL ASSESSMENT AND EDUCATION

Nutritional Assessment: Direct and indirect methods - Anthropometry, Clinical and Biochemical, Diet Surveys, Vital Health Statistics. Diet surveys. Nutrition Education: Rural and urban community, Institutions, hospitals, special needs.

UNIT -V RECENT TRENDS IN NUTRITIONAL RESEARCH

Review collection of recent works and research articles in the field of food science and nutrition.

TEXT BOOKS/ REFERENCES:

1. Swaminathan, M. (1974). Essentials of food and nutrition. Vol. II. Applied aspects. *Essentials of food and nutrition. Vol. II. Applied aspects.*
2. Davidson, S., & Passmore, R. (1963). Human nutrition and dietetics. *Human nutrition and dietetics.*, (2nd ed).
3. Maher, M. (1991). NORMAL AND THERAPEUTIC NUTRITION. Corinne H. Robinson, Marilyn R. Lawler, Wanda L. Chenoweth, Ann E. Garwick. MacMillan Publishing Company, New York, 1990, 759 pages. *Journal of Parenteral and Enteral Nutrition*, 15(6), 689-689.
4. Wardlaw, G. M., Insel, P. M., & Seyler, M. F. (2000). *Contemporary nutrition: issues and insights* (No. Ed. 2). Mosby-Year Book, Inc..
- 5.Sizer, F. S., Piché, L. A., Whitney, E. N., & Whitney, E. (2012). *Nutrition: concepts and controversies.* Cengage Learning.
6. Williams, S. R., & Schlenker, E. D. (2004). *Essentials of Nutrition & Diet Therapy.* Recording for the Blind & Dyslexic.
7. Whitney, E. N., & Rolfes, S. R. (2018). *Understanding nutrition.* Cengage Learning.
8. Lawlor, D. W. (2004). Mengel, K. and Kirkby, EA Principles of plant nutrition.