

ADVANCE HUMAN NUTRITION

Semester – 6th

CC - 13

FN (601)

Credit – 2 + 2 = 4

Objectives :-

This course will enable to student to –

1. Understand the functions and sources of nutrients.
2. Apply the knowledge in maintenance of good health for the individual and the community.
3. Be familiar with factors affecting availability and requirements.

Unit – 1

- A. Concept and definition of terms nutrition, malnutrition and health, brief history of nutritional science and scope of nutrition.
- B. Minimal nutritional requirements and RDA formulation of RDA and Dietary guidelines reference man and reference women.

Unit – 2

- A. Body composition and changes through the life cycle.
- B. Energy in human nutrition – Energy balance assessment of energy requirements.

Definition and excess.

Unit – 3

- A. Protein – Assessment of protein quality (BV, PER, NPU) Digestion and absorption, features affecting protein bio-availability including antinutritional factors, Requirements, deficiency. Lipids – Digestion and Absorption. Interpretation of synthesis of triglycerides. Types of fatty acids role and nutritional significance CSFA, MUFA, PUFA. W – 31.
- B. Carbohydrates – Digestion and Absorption, Blood glucose and effect of different carbohydrates on blood glucose, glycolic index, Dietary fiber – Classification, Composition, Properties and nutritional significance.

Unit – 4

- A. Minerals and Trace elements – Physiological role, bio availability and requirements, sources, Deficiency and Excess (Calcium, Phosphorus, Magnesium Iron, Fluoride, Zinc, Selenium, Iodine, Chromium).
- B. Vitamins – Physiological role, bio-availability and requirements, sources, deficiency and excess (fat soluble and water soluble). Water – Functions requirements.

Practicals:

1. Estimating energy requirements using factorial method.
2. Demonstration of BMR apparatus.
3. categorization of foods as rich, moderate and poor sources of energy and nutrients.
4. planning and preparation of dishes rich in energy, protein, fat, fibre, calcium, iron, vitamin A, vitamin C, thiamine, riboflavin, niacin.

Reference:

- Guthrie A.H. (1986): Introductory Nutrition, 6th Ed. The C.V. Mosby Company.
- Robinsan C.H., Lawler M.R. Chenoweth W.L. and Garwick A.E. (1986): Normal and Therapeutic Nutrition. 17th Ed. Mec Millan Publishing co.
- Swaminathan M. (1985): Essentials of Food and Nutrition, Vol. I and II. Ganesh and co. Madras.
- Gopalan C. et. al. (1991): Nutritive value of Indian foods. Indian council of medical research.
- Indian council of Medical Research (1984): Nutrient Requirements and Recommended Dietary Allowance for Indians, New Delhi.
- FAO / WHO / UNO: Technical Report Series. T24 (1985) Energy and Protein Requirements, Geneva.
- WHO Technical Report series for different Nutrients.