Subject Code : CCSHS7

HUMAN NUTRITION

OBJECTIVES:

To enable students

1. Understand the principles and application of nutrition
2. Become aware of the nutritional problems existing in the rural and Urban communities and measures taken to alleviate them.
3. Know the methods of assessing nutritional status of communities and suggesting appropriate measures for solving the problems.

UNIT – 1:

(a) Definition of nutrition, over nutrition, undernutrition and malnutrition. Signs of good and poor nutrition – Relation of good nutrition to health.

(b) Energy – Definition of calorie and Joule. Energy value of foods – Bomb calorimeter. Direct and indirect calorimeter. Basal metabolism, definition, methods of determining basal metabolism rate (BMR), factors influencing BMR calculation of total energy requirement. Factors affecting total energy requirements, food sources.

(c) Carbohydrates – classification, functions, source and requirements. Digestion and metabolism.

UNIT – 2:

(a) Proteins – Classification, properties, functions, sources and requirement. Digestion, absorption and metabolism. Essential amino acids. Measurement of protein quality – Biological value (BV), Protein Efficiency Ratio (PER) Nitrogen Balance, Net Protein Utilization (NPU).

(b) Lipids – classification, chemistry, properties, poly unsaturated fathy acids and saturated fatty acids, functions, sources and requirements. Essential fatty acids, effects of deficiency.

UNIT – 3:

(a) Vitamins – Definition, Classification – Fat soluble Vitamins – ADK and E. Water soluble vitamins – As corbic acid, thiamine, Riboflanin, Niacin and other other B Complex vitamins – Pyridoxin, Cyanocobalamin (B12) folic acid, pantothenic acid and biotin – History, functions, effects Of deficiency, food sources and requirements.

(b) Minerals – Macro and micro minerals, Calcim, Phosphorus and iron. Sodium, potassium, magnesium, Copper, Iodine Chromium – Distribution In the body, functions, absorption and utilization, food sources, requirement, effects of deficiency and Zinc, Cobalt, Chloride, Fluorine.

UNIT – 4 :

(a) Role of dietary fibre in health and disease.

(b) Water – Distribution, functions, sources, daily loss, requirements.

UNIT – 5:

(a) Assessing the food and nutritional problems in the community methods available for the assessment of the nutritional status of an individual and the community. Assessment methods – clinically signs – nutritional anthropometry - Biochemical tests – Diet surveys.

(b) Measures to overcome malnutrition. Role of nutrition education and Nutrition intervention programmes. Role of ICMR, ICAR, CFTRI, ICDS, Nutritious Noon Meal Programme, Constribution of international Crganisations – WHO, UNICEF, FAO.

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3. Robinson, C.H.Normal and Therapeutic Nutrition. The Mac Millan Company, New York (1988).
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6. Gopalan, C. and Vijay araghavan, K.Nutrition Atlas of India, ICMR, New Delhi (1971).
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JOURNALS:

1. Nutrition NIN, ICMR, Hydra bad.
2. The Indian Journal of Nutrition and Dietetics Avinashilingam Institute of Home Science and Higher Education for women, Coimbatore – 43.
3. NIN News letter.