



MANGALORE UNIVERSITY
DEPARTMENT OF BIOCHEMISTRY

MSc in Biochemistry

SOFTCORE BCE: 457 BIOCHEMISTRY IN DAY- TO- DAY LIFE

Total Number of Lecture Hours: 34

Total Number of Credits: 03

Course objectives

- To know the basic concepts of nutrition.
- To learn about macro and micronutrients, importance of water
- To study the significance of carbohydrates, proteins, fats and vitamins
- To bring awareness about effect of drugs on food and nutrition

Course outcome

- Student learns the basic concepts of nutrition.
- Further he learns about macro and micronutrients, importance of water
- Also studies the importance of carbohydrates, proteins, fats and vitamins
- Learns about drug- drug reaction, food-drug reaction.

Unit I

12hrs.

Nutrition-Concepts of nutrients, essential nutrients and their classification. Basal Metabolic Rate(BMR), factors affecting BMR. Specific dynamic action of foods. **Macro and micronutrients:** Sources, requirements, functions and deficiency symptoms. **Water:** Distribution in the body, function, special properties of water, water balance and factors affecting water balance. **Carbohydrates**-Dietary sources, Essentiality of carbohydrates, Dietary fibers.

Unit II

12hrs.

Proteins-Essential amino acids, nutritional classification of proteins, supplementary value of proteins, protein calorie malnutrition, PER, EV and chemical score, Kwashiorkor and Marasmus, Nitrogen balance, Malnutrition, protein calorific value. **Fats**-Sources, invisible fat, essential fatty acids, PUFA. **Dietary formulation** for different age groups: children, adults, old age and pregnancy.

Unit III

10 hrs.

Vitamins-Fat soluble and water-soluble vitamins, pro-vitamins, anti vitamins, dietary sources, daily requirement, function and deficiency symptoms of vitamins. Hypervitaminosis, vitamin-like compounds, Disorders. **Food Drug Interaction:** Effect of drugs on food and nutrition.

References:

1. Nutritional Biochemistry, Tom Brody (1994) Academic Press.
2. Frontiers in Nutrition, Ed. T. Wilson and N.J. Temple, (2000), Humana.
3. Nutrition & Health in Developing Countries, eds. R. Semba and M.W. Bloem, (2000), Humana.

