



## FOOD AND NUTRITION

**Credits : 4**

**Subject Code: MFT13402 (A)**

**II Year/Semester: IV**

**No. of lecture hours: 45**

### Objectives:

- Understand the relationship between food, nutrition and health.
- Understand the functions of food.
- Learn about various food groups and balanced diet.
- Understand digestion, absorption and function of various nutrients and their sources.

### Outcomes:

Students will gain knowledge about importance of nutrition and understand digestion, absorption and function of various nutrients and their sources.

### Unit – I

**(9Hrs)**

#### Nutrition & Nutrients

- Basic definition- Nutrition, health, nutrient, proximate principles 1
- Food – definition, classification – based on nutritive value 1
- Classification – based on functions 2
- Carbohydrates – classification, examples, sources, deficiency, functions 1
- Lipids – classification, examples, sources, deficiency, functions 1
- Protein – classification, examples, sources, deficiency, functions 1
- Deficiency symptoms – Kwashiorkor, marasmus, PEM 2

### Unit – II

**(9Hrs)**

#### Vitamins & Minerals

- Vitamins – definitions, classification, examples 1
- Vitamins – Sources, deficiency symptoms 2
- Vitamins – requirements ( fat & water soluble) 2
- Minerals – definitions, classification, examples 1
- Minerals – sources, deficiency symptoms 2
- Minerals – requirements 1

### Unit – III

**(9Hrs)**

#### Food Energy & RDA

- Energy-Definition, methods to determine energy value of foods 1
- Physiological fuel value - Energy requirements 2



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- Balanced diet – Recommended daily allowances 1
- Nutritional requirements for different age groups: infants, Pre-school children 1
- Nutritional requirements for different age groups - school children, Adolescents 1
- Nutritional requirements for different age groups - Adults, old age 1
- Nutritional requirements for different age groups – Pregnancy, lactation 1
- Nutritional requirements for different age groups – Industrial workers 1

**Unit – IV (9Hrs)**  
**Assessment of Nutritional Status**

- Assessment of nutritional status –
  - Anthropometric measurements 1
  - Clinical assessment; Radiological & biophysical methods 1
  - Biochemical methods; Diet surveys 1
- Programs to combat Malnutrition of deficiency disorders
  - Applied Nutrition program; Supplementary feeding program 2
  - Anemia prophylaxis program, Goitre control program 2
  - Vit – A deficiency control program; 1
  - Integrated child development program 1

**Unit – V (9Hrs)**  
**Supplementary Foods & Novel Foods**

- Supplementary foods & Novel foods 1
- Role of international agencies in overcoming malnutrition – CARE 1
- Role of international agencies in overcoming malnutrition – WHO, FAO 1
- Role of international agencies in overcoming malnutrition – UNICEF 1
- Therapeutic diets 1
- Modification of diet – Clear fluid diet, full fluid diet & Soft diet 1
- Obesity, Food faddism 1
- Faulty food habits 1
- Food allergy 1

**Recommended Readings:**

- Swaminathan, M. S. **Essential of Food and Nutrition**. Volume: I and II. Bangalore: Printing and Publishing Co. Ltd.
- Swaminathan, M. S. 1978. **Hand book of Food and Nutrition**. Bangalore: Bappco Ltd.
- Srilakshmi. 2007. **Food Science**, 4<sup>th</sup> edition. Hyderabad: New Age International Ltd.



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- Khanna, K. Gupta, S. Seth, R. Mahna, R. and Rekhi, T. (2004). **The Art and Science of Cooking: A Practical Manual**. India: Elite Publications.
- Seth, V. and Singh, K. (2005). **Diet planning through the Life Cycle: Part 1. Normal Nutrition. A Practical Manual**. 4<sup>th</sup> edition. India: Elite Publications.
- ICMR (2010). **Nutrient Requirements and Recommended Dietary Allowances for Indians**. 2<sup>nd</sup> edition. Hyderabad: NIN.