  
**Dr. Estari Mamidala**  
Chairman  
Board of Studies in Zoology  
Department of Zoology  
Kakatiya University  
Warangal-506009

**B.Sc. FOOD & NUTRITION**  
**KAKATIYA UNIVERSITY – WARANGAL - TELANGANA**  
Under Graduate Courses (Under CBCS 2020-21 onwards)  
**B. Sc. III<sup>rd</sup> YEAR - SEMESTER - VI**

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**PAPER-VI: A-PUBLIC HEALTH NUTRITION (Theory)**

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**Theory:** 4 hrs/week; Credits : 4 Marks : 100 (Internal-20, External-80)  
**Practical:** 3 hrs/week; Credits : 1 Marks : 25

**UNIT-I**

- 1.1 Introduction to Public Health Nutrition (PHN)-Definition and Scope, Relation between health and nutrition, productivity and development
- 1.2 Functions and Requirements and effect of deficiency of Macro nutrients-energy, protein, fat and carbohydrate
- 1.3 Functions and Requirements and effect of deficiency of micro nutrients-Vitamin A, B complex, C, D, E and K.
- 1.4 Functions and Requirements and effect of deficiency of minerals-Iron, Calcium, Zinc, Sodium, Potassium, Iodine and Fluoride.

**UNIT-II**

- 2.1 Introduction to Nutritional Epidemiology
- 2.2 Key components of epidemiology, Demography
- 2.3 Epidemiology and Public Health. Important epidemiological studies.

2.4 National and International agencies in community nutrition: FAO, WHO, UNICEF, CARE, ICMR, NIN, CFTRI, ICDS (Integrated Child Development Scheme) and Midday Meal Programs.

### **UNIT-III**

- 3.1 Present Scenario of malnutrition in India
- 3.2 Causes of malnutrition-Illiteracy, poverty, social factors.
- 3.3 Implications and strategies of malnutrition
- 3.4 Assessment of nutritional status and nutritional surveillance-Anthropometry, biochemical examination, clinical examination and Dietary survey.

### **UNIT-IV**

- 4.1 Research Methods specific to nutrition, Factors important in study design.
- 4.2 Indirect assessment - Food balance sheets and vital statistics. Nutrition Education Objectives, Channels of Nutrition education in the community.
- 4.3 Methods of educating the community, Lecture and method demonstrations, Nutrition exhibitions and visual aids.
- 4.4 Fortification and enrichment of foods - Objectives of Fortification, Food fortification programmes in India.



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### **Books Recommended**

- Sheila CV. Public Health Nutrition in Developing Countries, Published by Wood head publishing India PVT Ltd, New Delhi.
- Stein, N. Public Health Nutrition: Principles and Practice in community and global health, Jones and Bartlett Learning USA, 2015
- Text book of Human Nutrition, 4th Edition, Ed. by Mahtab S. Bamji, Kamala Krishnaswamy and G.N.V. Brahmam. Oxford and IBH Publishing Co., P. Ltd. New Delhi.
- Srilakshmi B, Nutrition Science, New Age International Publishers.
- Ritchey S.J. and Taper L.J., Maternal and child nutrition, Harper and Row publishers N.Y.
- Swaminathan M. Advanced Text book on Food and Nutrition, Vol-II, The Bangalore Printing and Publishing Co. Ltd.
- Mc Laren D.S. Nutrition in the Community, John Wiley and Sons.
- Gordis Leon. Epidemiology (Fifth edition) , Elsevier Saunders, 2013.
- Barkar, D.J.P., Practical Epidemiology: Churchill pub, Livingstone, 1991
- Public Health at the Crossroads –Achievements and Prospects. Robert Beaglehole and Ruth Bonita 2nd Edition Cambridge University Press

  
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**PAPER-VI: A-PUBLIC HEALTH NUTRITION (Practical)**

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1. Diet and Nutrition Surveys
2. Identifying at risk and vulnerable groups.
3. Assessment of nutritional status: Anthropometry- Height, Weight, BMI
4. Assessing the dietary intakes of Adolescent girls using a diet survey
5. Community diagnosis and identification of areas of nutrition-health education.
6. Visits to observe the working of Nutrition and Health oriented Programmes-a govt. school to observe the mid day meal program
7. Visit to an ICDS (Integrated Child Development Scheme) Project Center
8. Visit to UNICEF to observe Child Nutrition Programs

  
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**PAPER-VI: B-COMMUNITY NUTRITION (Theory)**

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**Theory:** 4 hrs/week; Credits : 4 Marks : 100 (Internal-20, External-80)  
**Practical:** 3 hrs/week; Credits : 1 Marks : 25

**UNIT-I**

- 1.1 Definition of Balanced diets, RDA, Factors affecting RDA, ICMR recommendations.
- 1.2 Food pyramid, my food plate.
- 1.3 Food Exchange List (raw), food composition tables.
- 1.4 Principles & objectives of meal planning. Nutrient requirement & meal planning for adults, changes in nutrient requirement according to sex, age & activity.

**UNIT-II**

- 2.1 Nutrient requirement & RDA for Expectant mother-physiological changes, dietary modification & complications.
- 2.2 Nutritional requirement for Lactation-general dietary guidelines & role of special foods.

- 2.3 Nutritional requirement for pregnancy women.
- 2.4 Nutritional requirement for Infancy-growth & development, breast feeding v/s artificial feeding, factors to be considered while preparing & introducing supplementary foods.

### **UNIT-III**

- 3.1 Nutritional requirement for preschoolers-problems in feeding, factors affecting nutritional status.
- 3.2 Nutritional requirement for School going child-importance of breakfast, packed lunch & mid-daymeal programs-ICDS, SNP.
- 3.3 Nutritional requirement for Adolescence-eating disorder, anemia, anemia prophylaxis program.
- 3.4 Geriatrics-RDA & nutritional requirement during old age, physiological changes & dietary modification.


### **UNIT-IV**

- 4.1 Assessment and management of moderate and severe malnutrition among children, Micronutrient malnutrition among preschool children.
- 4.2 Child health and morbidity, neonatal, infant and child mortality, link between mortality and malnutrition.
- 4.3 Maternal health and nutritional status, maternal mortality and issues relating to maternal health
- 4.4 Overview of maternal and child nutrition policies and programmes.

  
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### **Reference Books:**

- Sri Lakshmi. B-Dietetics, New Age International Publishers, New Delhi-110002, 2011.
- Sri Lakshmi.B-Nutrition Science, 5thEdition, New Age International Publishers, New Delhi-110002, 2011
- Wadhwa A and Sharma S (2003). Nutrition in the Community-A Textbook. Elite Publishing House Pvt. Ltd. New Delhi.
- Park K (2011). Park's Textbook of Preventive and Social Medicine, 21st Edition. M/sBanarasidas Bhanot Publishers, Jabalpur, India.
- Text book of Human Nutrition, 4thEdition, Ed. by Mahtab S.Bamji, Kamala Krishnaswamy and G.N.V. Brahmam. Oxford and IBH Publishing Co., P. Ltd. New Delhi.



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**PAPER-VI: B-COMMUNITY NUTRITION (Practical)**

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1. Planning of diets
  - Adult-according to sex & activity.
  - Pregnant & lactating women.
  - School going child. ➤ Adolescents.
  - Old age group

2. Visit to a Govt. Hospital to observe a new born infant -Premature and full term baby. 3. Preparing charts, models and posters for imparting Nutrition education
4. Preparation of diet chat for pregnant mother.
5. Preparation of diet chat for lactating mother.
6. Preparation of diet chart for old age.
7. Nutrition education to mothers of infants (0-6 months) on importance of breastfeeding.
8. Assessing Nutritional status of mothers using diet survey and anthropometry.
9. Conducting demonstration of a nutritious weaning food for mothers of infants (6 12 months of age)
10. Formulation & preparation of weaning mix.

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