

## गृह विज्ञान (Home Science)

### **i. Basic concepts in food & nutrition and Nutrient**

Basic terminologies, interrelationship of nutrient, nutrition and health, functions of food Physiological, psychological and social,

Nutrient's Functions, chemistry, dietary sources, properties and clinical manifestations of deficiency/ excess of the following:

- Energy, Carbohydrates, Lipids, Proteins and Fiber
- Fat soluble vitamins-A, D, E and K
- Water soluble vitamins - thiamin, riboflavin, niacin, pyridoxine, folate, vitamin B12 and vitamin C
- Minerals - calcium, phosphorus, iron, zinc, sodium, copper and iodine
- Water

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### **ii. Methods of cooking, Food Groups & Principles of meal planning**

Dry, moist, frying and microwave cooking, advantages and disadvantages, Nutrient losses, Enhancing the nutritional quality- Supplementation, Germination, Fermentation, Fortification and GM foods: Concept of balanced diet,

Structure, composition, Products, nutritional contribution, Selection and changes during cooking of the following food groups:

Cereals, Pulses, Fruits and vegetables, Milk & milk products, Eggs, Meat, poultry and fish, Fats and Oils, Spices and herbs, Beverages

Importance and Principles of Meal Planning

- Food exchange list
- Factors affecting meal planning and food related behavior
- Methods of assessment of nutrient requirements
- Dietary guidelines and Recommended Dietary Allowances for all groups of Indian Population

**iii.** Preservation techniques, Principles, their applications and Basic food microbiology  
High temperature, low temperature, Removal of moisture, Irradiation and ad  
lalties.

- Food packaging and labeling: FSSAI, Codex X :
- Introduction to yeast, mold and bacteria - Characteristics and their role in preservation and spoilage of food.
- Hygiene and Waste disposal in relation to food processing.

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**iv.** Food laws and Quality Assurance.

- National and International food laws – FSSAI, BIS, AGMARK, Codex and ISO: 22000, ISO: 14000
- Quality Assurance procedures – GMP, GHP, HACCP.

**v.** Nutrition through Lifespan/ Life cycle-

Nutrition during childhood- Growth and development, Growth reference/standards,

RDA, nutritional guidelines, Nutritional concerns, and healthy food choices.

- Infants
- Preschool children
- School children
- Adolescents
- Infant and young child feeding and care - Current feeding practices and nutritional concerns, Guidelines for infant and young child feeding, Breast feeding, Weaning and complementary feeding.
- Assessment and management of moderate and severe malnutrition among children, Micronutrient malnutrition among preschool children.
- Child health and morbidity, Neonatal, Infant and Child mortality, IMR and USMR; link between mortality and malnutrition;

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**vi.** Nutrition during adulthood -Physiological changes, RDA, Nutritional guidelines, Nutritional concerns, Energy balance and healthy food choices.

- Adults
- Pregnant women-Nutritional needs during pregnancy, Common disorders of pregnancy (Anemia, HIV infection, Pregnancy induced hypertension), Relationship between maternal diet and birth out-come.
- Lactating mothers-Nutritional needs of nursing mothers and infants, determinants of birth weight and consequences of low birth weight, Breastfeeding biology, Breastfeeding support and counseling
- Elderly

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**vii.** Nutrition for special conditions- Nutrition for physical fitness, Sport, Floods and war. Feeding problems in children with special needs

**viii.** Concept and Scope of Public Nutrition, Nutritional problems,

- Definition and multidisciplinary nature of public nutrition
- Concept and scope
- Role of public nutritionist
- Etiology, Prevalence, Clinical features and Preventive strategies of

Under nutrition Protein energy malnutrition, Nutritional anemia's, Vitamin A deficiency, Iodine deficiency disorders;

Over nutrition - Obesity, Coronary heart disease, Diabetes, Fluorosis

- National Nutrition Policy and Programmes - Integrated Child Development Services: (ICDS) Scheme Mid day Meal. Programme (MDMP), National programmer for prevention of Anaemia, Vitamin A deficiency, Iodine Deficiency Disorders. Overview of maternal and child nutrition policies and programmes.
- Human Development Indices.

**ix.** Assessment of nutritional Status

- Objectives and importance,
- Methods of assessment
  - a. Direct- Clinical signs, Nutritional anthropometry, Biochemical tests, Biophysical tests
  - b. Indirect- Diet surveys, vital statistics

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### x. Nutrition Education & Food and Nutrition Security

- Objectives, principles and scope of nutrition and health education and promotion
- Behaviour Change Communication
  - Appropriate interventions involving different sectors such as Food, Health and Education.
  - Concept, Component, Determinants and Approaches
  - Overview of Public sector programme for improving food and nutrition

### xi. Introduction to Family Resource Management

- Concept, universality and scope of management
- Approaches of management
- Resources
- Understanding meaning, classification and characteristics of resources, Factors affecting utilization of resources.
- Maximizing use of resources and resource conservation.
- Availability and management of specific resources by an individual/ family
  - Application of Management Process in:
    - Event Planning & Execution

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### xii. Family, Type, Functions, Role and responsibility: An overview

### xiii. Communication:

- Concept and nature, Functions and types of Communication- communication transactions; Formal and informal communication; Verbal and Non-verbal Communication
- Cope of Communication Education, Training and learning industry, Motivation and Management,
- Intrapersonal Communication-Concept, Types and Functions of interpersonal communication, Stages in human relationship development, Small group communication: Types and Functions



- Organizational communication: Concept, Types, Functions and Networks
- Public communication- Concept and Techniques.
- Mass Communication- Concept, Significance, Functions and Elements
- Theories and models of mass communication
- Relationship between culture and communication.
- Communication for social change

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**xiv. Understanding Human Communication for Extension**

- Culture and communication- Signs, symbols and codes in communication, tribal Culture of Jharkhand
- Elements, Principles, Models Barriers of Communication
- Concept, Nature and relevance to communication process: Empathy Persuasion Perception Listening –
- Concept, Nature and Philosophy of Extension
- Principles of Extension
- Methods and Media of community outreach; Audio-Visual aids- concept, Classification, Characteristics and Scope.
- Relationship between, Communication, Extension and Development

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**xv. Mass Media**

- Communication and mainstream media- Newspaper, Radio, Television and Cinema, ICTS and web based communication
- Print Media: Types, Nature, Characteristics, Reach, Access
- Radio: Types, Nature, Characteristics, Reach, Access.
- Television and cinema: types, nature, characteristics, reach, access.
- ICTS: Types, Characteristics, Reach and Access.

**xvi. THE CHILDHOOD YEARS**

Introduction to Human Development

- Definition, History and Interdisciplinary nature of Human Development.
- Scope and importance of Human Development
- Principles of Growth and Development
- Stages and Factors affecting Development.

## Prenatal Development, Birth and the Neonate

- Reproductive health
- Conception, Pregnancy- sign and complications, Birth Process and types of delivery.
- Stages and factors affecting Pre-Natal Development
- Capacities and care of the new born
- Infancy and Preschool years
- Physical and Motor development
- Social and Emotional development
- Cognitive and Language development
- Middle Childhood years
- Physical and motor Development
- Social and Emotional development
- Cognitive and Language development

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## xvii. DEVELOPMENT IN ADOLESCENCE AND ADULTHOOD

### a) Introduction to Adolescence

- Developmental tasks during Adolescence
- Puberty, Sexual maturity, Nutrition, health, and Psychological well-being
- Self and identity
- Family and peer relationships
- Adolescent interface with media

### b) Cognitive, Language and Moral development

- Perspectives on cognitive development
- Development of intelligence and creativity
- Adolescent language
- Adolescent morality

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### c) Introduction to Adulthood

- Definitions, Transition from adolescence to adulthood
- Developmental tasks of adulthood
- Physical and physiological changes from young adulthood to late adulthood
- Significance of health, Nutrition, and Well being

**d) Socio-emotional and Cognitive development**

- Diversity in roles and relationships
- Marriage-contemporary trends
- Parenting and grand parenting

**e) Care and Human Development**

- Definition, concepts & relevance of care
- Vulnerable periods in life that require care
- Principles & Components of care

**f) Well-being and Human Development**

- Concept of well-being- Physical, Psychological, Spiritual
- Life crises and well-being
- Factors & Experiences that promote well-being

**g) Care & Well-being at different stages of life**

- Childhood years
- Adolescence
- Adulthood and Old age
- Well-being of caregivers

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**h) Policies, Services & Programs**

- School health programs
- Nutrition & Health for all
- Counseling & Yoga