

Syllabus for Integrated Ph.D Entrance Test-(2025-26)

Subject: Home Science (Food Science & Nutrition)

Unit I

Physiology

- ❖ Living cell, Blood and other body fluids.
- ❖ Cardio-vascular, digestive, respiratory, Excretory and Nervous system.
- ❖ Endocrine glands, muscles and skeletal system, sensory organs, immunity,
- ❖ Reproduction and Development.

Unit II

Biochemistry

- ❖ Carbohydrates, lipids, proteins and their metabolism
- ❖ Nucleic acids and their metabolism.
- ❖ Enzymes, Structure & Biochemical role of co-enzymes.
- ❖ Detoxification & its mechanism.

Unit III

Assessment of Nutritional Status

- ❖ Indicators of MCH Care
- ❖ Assessment of nutritional status by Anthropometry & Clinical Examination
- ❖ Assessment of nutritional status by Biochemical and Dietary Assessment
- ❖ Nutritional Surveillance and Social Aspects of Nutrition

Unit IV

Advanced Nutrition

- ❖ Body composition, Energy, Water, Carbohydrates, Proteins & Lipids as nutrients inside the body.
- ❖ Macro & micro elements, their biochemical role, absorption, deficiency, transport and storage inside the body.
- ❖ Fat & water soluble vitamins: their absorption, Biochemical functions, Metabolism & Antagonists.
- ❖ Transport of nutrients across cell membrane.
- ❖ Emerging concepts in human nutrition.

Unit V

Life Span Nutrition

- ❖ Nutrition in Pregnancy & Lactation, Infancy, Childhood
- ❖ Nutrition during adolescents and adulthood.
- ❖ Geriatric & Sports Nutrition.
- ❖ Assessment of nutritional status of community.
- ❖ Various nutritional intervention programmes for improving health of the society.

Unit VI

Clinical & Therapeutic Nutrition

- ❖ Dietetics, factors in patients care & rehabilitation Modification of normal diet.
- ❖ Diet in relation to fever & infections
- ❖ Gastro intestinal tract disease, disorders of liver and Gall bladder, Renal disease
- ❖ Acute and Chronic diseases of heart
- ❖ Metabolic disorders, obesity and under nutrition.

Unit VII

Advanced Food Science

- ❖ Evaluation of food by sensory and objective methods
- ❖ Colloidal chemistry, Fortification and Enrichment of foods
- ❖ Sugar, Starch, Milk, Egg and Pulse Cookery.
- ❖ Vegetables & fruits, fats & Oils, Meat, Fish & Poultry.
- ❖ Food standards & Laws, Foods Adulteration.

Unit VIII

Food processing and Technology

- ❖ Principles in food processing operations: Thermal, Refrigeration, Freezing and Dehydration, Ionizing Radiations, Chemical Preservation and Fermentation.
- ❖ Processing technology of foods and Nutritional implications for cereals & pulses, fruits & vegetables, Milk and its products, Meat, Fish, Egg, Fats & Oils, Spices and Food Additives.

Unit IX

Nutrition in Emergency and Disaster

- ❖ Disaster Management, Short-term effect of major disasters.
- ❖ Causes and indicators of malnutrition in emergency situations.
- ❖ Major Nutritional deficiency diseases in emergencies.
- ❖ Methods of assessment mal-nutrition in emergencies.
- ❖ Nutritional relief and rehabilitation: Assessment of food needs in emergency situations.

Unit X

Community Nutrition

- ❖ Methods of assessing nutritional status of the community.
- ❖ Methods and techniques in nutrition education for combating malnutrition in India.
- ❖ Common nutritional problems in India.
- ❖ Combating major nutritional problems in India.
- ❖ Role of national & International agencies in improving the nutritional status of the community.

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Unit VII

Institutional Management

- ❖ Food – Service, Management
- ❖ Selection, Storage and Production
- ❖ Sanitation & Safety of food service establishments
- ❖ Physical layout and equipment
- ❖ Functional Management

Unit VIII

Nutrition in Critical Care

- ❖ Procedures of Nutritional Screening
- ❖ Nutritional Status Assessment of the critically ill
- ❖ Conventional feeding method of Nutritional Support for Critically ill Patients.
- ❖ Tube, Parenteral and Transitional methods of nutritional support for critically ill patients
- ❖ Nutritional Requirements and Special Diets in Critical Care

Unit IX

Nutrition in Emergency and Disaster

- ❖ Disaster Management, Short-term effect of major disasters.
- ❖ Causes and indicators of malnutrition in emergency situations.
- ❖ Major nutritional deficiency diseases in emergencies.
- ❖ Methods of assessment mal-nutrition in emergencies.
- ❖ Nutritional relief and rehabilitation- Assessment of food needs in emergency situations.

Unit X

Community Nutrition

- ❖ Methods of assessing nutritional status of the community.
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- ❖ Common nutritional problems in India.
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Syllabus for Integrated Ph.D Entrance Test-(2025-26)
Subject: Home Science (Extension and Communication)

Unit I

COMMUNICATION TECHNIQUES

- ❖ Communication, Audio Visual Aid
- ❖ Communication and Extension Approaches
- ❖ Mass Media Approaches of Communication.

Unit II

METHODS FOR COMMUNITY PARTICIPATION

- ❖ Conceptual Specification
- ❖ Space Related PRA Methods
- ❖ Time Related PRA- Methods
- ❖ PRA Relation Methods

Unit III

EXTENSION PROGRAMME PLANNING & DESIGN

- ❖ Programme Planning,
- ❖ Steps of Programme Planning
- ❖ Programme implementation
- ❖ Extension Evaluation

Unit IV

EXTENSION EDUCATION SYSTEM

- ❖ Conceptual Analysis
- ❖ Extension Models and Approaches
- ❖ National Extension System Support Structure and their Functions

Unit V

MANAGEMENT OF HUMAN SERVICE ORGANIZATIONS

- ❖ Concept and Management of Human Service Organizations
- ❖ Working for the Service of Children
- ❖ Organizations Working for the Service of Youth and Groups with Special Needs
- ❖ Assessment of Human Services Organizations & Concept of Volunteerism.

Unit VI

EXTENSION MANAGEMENT

- ❖ Extension & Personal Management
- ❖ Organizing and planning in Extension Management.
- ❖ Staffing and Leading in Extension Management.
- ❖ Controlling and Efficiency of Personal in Extension Management.

Unit VII

GENDER AND DEVELOPMENT

- ❖ Gender and Development
- ❖ Violence against Women
- ❖ Policies and programmes for women's development and support system
- ❖ Legal Empowerment

Unit VIII

TRAINING AND DEVELOPMENT

- ❖ Training and Learning
- ❖ Learning Methodologies. Trainers and Trainee Interface.
- ❖ Training Process, Organizational Factors and Training.

Unit IX

Community Organization and Development Theory

- ❖ Concept and characteristics of a community- Structure and organization of different types of communities-tribal, rural and urban.
- ❖ Social groups- dynamics of social group-different types of social groups- family and kindship group, class based groups and interest groups.

Unit X

Women, Nutrition and Health

- ❖ Pubescence and adolescence, food related habits of adolescents, general nutritional problems during adolescence.
- ❖ Pregnancy and lactation, general dietary problems of expectant mothers

Syllabus for Integrated Ph.D Entrance Test-(2025-26)

Subject: Home Science (Human Development)

Unit I

Methods of Studying Human Development.

- ❖ Importance, Trends and challenges in studying Human Development
- ❖ Observation, Interview ,Questionnaire & Case study methods
- ❖ Socio-metric & Psychometric Methods
- ❖ Objective, Subjective and Projective techniques.

Unit II

Early Childhood Care and Education

- ❖ ECCE- Concept, Importance and Need.
- ❖ Contribution of Froebel and Maria Montessori to the development of ECCE.
- ❖ Concept of formal, non-formal and play way methods.
- ❖ Latest trends in ECCE- NEP 2020.
- ❖ Organization and administration of ECCE Centers.
- ❖ Activities for ECCE: Language, Music, Mathematics, Science and Social Studies.

Unit III

Advanced Study in Human Development-1

- ❖ Principles, developmental tasks and basic concepts of development.
- ❖ Prenatal development and Infancy
- ❖ Early and late Childhood Years
- ❖ Adolescence

Unit IV

Management of Programmes for Children and the Family.

- ❖ Management - Meaning, Nature, Importance, Functions.
- ❖ Management process, Swot Analysis.
- ❖ UNICEF, CARE, ILO, WHO.
- ❖ Family and child welfare services working at national level (NIPCCD, CSWB, ICDS).

Unit:V

Advanced Study in Human Development –II

- ❖ Youth/Young Adulthood
- ❖ Middle Adulthood
- ❖ Late Adulthood
- ❖ Old Age

Unit VI

Study of persons with disabilities

- ❖ Understanding Disability
- ❖ Skeletal disorders and Sensory Impairments
- ❖ Intellectual and Emotional Impairments
- ❖ Physical disorders and Overview of Persons with Disabilities

Unit VII

Development of Creativity

- ❖ Creativity: Concept, Levels and Traits.
- ❖ Neuropsychological perspective of creativity.
- ❖ Creativity in relation to intelligence, achievement and personality.
- ❖ Problem solving, Brain Storming, Inquiry Training, Synectics.

Unit VIII

Principles of Guidance and Counseling.

- ❖ Guidance: Concept, Need, Objectives, Characteristics.
- ❖ Counselling: Concept, Purpose, Need, Elements.
- ❖ Ethical and Legal guidelines.
- ❖ Directive and non directive theory.
- ❖ Psychotherapy, Cognitive behavior therapy.
- ❖ Guidance and Counseling for special groups:(Gifted, Mentally challenged).

Unit IX

Mental Health in Developmental Perspective

- ❖ Definition, Concept, Characteristics & importance of mental health.
- ❖ Mental hygiene-concept, Factors determining mental hygiene.
- ❖ Concept of Adjustment and maladjustment.
- ❖ Indicators of Maladjustment (With reference to Phobia, Anxiety, Mania and Frustration).
- ❖ Implication of attachment & bonding for mental health, deprivation syndrome.

Unit X

Child and Human Rights

- ❖ Concept of Fundamental Rights (Article 12-35 Constitution of India.
- ❖ Need and Importance of Rights in a Society
- ❖ Universal Declaration of Human Rights (1948)
- ❖ National policy for children
- ❖ Juvenile justice (care and protection of children) Amendment Act 2006.
- ❖ Sexual Harassment at Workplace, PCPNDT Act.