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## Home Science

### **Human development**

1-Introduction to Human Development

a- Definition, concept, principles of Human Development

c- Historical perspective of Human Development.

- The Western perspective
- The Ancient Indian perspective
- The Scientific study of Children in india

e-Need and Scope of the field of Human Development

- Opportunities for Roles and Employment
- Settings Available

2- Growth and Development

- Definitions of Growth and Development
- General Principles of development
- Constraints and facilitators in growth and development (influences of heredity and environment)
- Genetic inheritance-Fertilization, Number of Chromosomes, Determination of Sex, Genotype and phenotype, Sex linked genetic effects.
- Environment
- Interaction between environment and inheritance

3- Prenatal development and Birth process

4- Development stages and tasks across the Life Span

5- Physical and motor Development-Across Life Span.

Physical Development, motor development, cognitive development, language development, social development, emotional development, personality development, moral development.

6-Early Childhood Care and Education: Concepts, objectives, need, scope and significance

7-Types of Pre-school, ECCE in the National policy on Education

8-Contribution of the thinkers in ECCE, ECCE in India

9-Contribution of the mentioned agencies/Programmes to ECCE in India: ICCW, IAPE, NCERT, ICDS, UNICEF, NCTE, Mobile Creche etc.

10- Methods and Approaches to the study of Human Development, their strength and limitations.

11-Theories of Human development and behavior Psychological Theory-Sigmund Freud, Erik Erikson Social Learning Theory-Albert Bandura Learning Theories-Pavlov and Skinner Cognitive Development Theory- Jean Piaget socio- Cultural Theory of Cognitive Development-Vygotsky Kohlberg's Moral Judgment theory Ecological Theory- Urie Bronfenbrenner.

12-Principles and objectives of family guidance and counseling.

13- Children with Special Needs: Definition, types, factors. Need for intervention. rehabilitation, Services for special children.

14- Programmes for children and Families: specific programmes for children related to health, nutrition, education and their management. National family welfare policies and their management.

### **Foods & Nutrition**

1-Nutrition and health- definition and inter - relationship

- Food-Definition, physical and chemical composition of food, functions of food
- Classification of food according to source and function
- Effect of cooking, processing, preservation and storage of nutrients in:
  - Fruits and vegetables
  - Pulses and legumes
  - Cereals
    - Milk and Milk product
  - Eggs
  - Meat, fish and poultry
  - Sugar and beverages

2- Methods of enhancing nutritive value of food- germination, fermentation, supplementation and fortification

3-Food additives and its uses in food preparations

4-Sensory evaluation: Definition and types

5-Food Adulteration: definition ,common adulterants, methods of detections .

6-Legislation, Quality control and Assurance: Food laws and Act, FSSAI 2006

7-Food Analysis: Sampling for products, proximate principles, nutrient analysis

a-General analytical techniques (Colorimeter, spectrophotometer, ELISA etc.)

8-Microbiology of Food and Diseases: Introduction, Sources of food contamination and spoilage, Food Toxins, Food Safety and sanitation, HACCP, microbes in diseases.

9- 12- Nutritional and biochemical aspect of Protein, Carbohydrate and dietary fibre,

- Lipids, Vitamins, Minerals. Function, digestion, absorption and sources of nutrients
- Energy metabolism: Energy value of food BMR, Factors affecting energy requirement.
- Minimum nutritional requirement and RDA, formulation of RDA and Dietary guidelines- reference man and reference women.
- d- Metabolism: Carbohydrate, protein and fat metabolism, role of enzyme in metabolism.

10-Normal and Therapeutic Nutrition: Concept of balanced diet, Meal planning

11-Factors to be considered when planning meals for a family. Requirement and diet plans for different stages of life: Infancy, Childhood, Adolescence, Adulthood- including pregnancy and lactation, old age.

12- Dietary modification- soft diet, liquid diet, Total parenteral nutrition, other therapeutic diets. Nutrition in common diseases:

- Fever, typhoid and TB
- Diarrhea and constipation
- Infective hepatitis, cirrhosis
- Obesity
- Diabetes
- Hypertension, Coronary heart diseases
- Renal disease: Nephrotic syndromes, glomerulonephritis, acute and Chronic renal failure,
- Rheumatic arthritis, osteoporosis, gout
- Cancer

13- Community Nutrition: Concept, Nutritional epidemiology, assessment of nutritional status, nutritional problems of community: PEM, Vitamin A deficiency, anaemia, iodine deficiency, Community nutrition services, National nutrition policy.

**Family Resource Management**

1- Introduction to management: Basic concept of management, Purpose of management, Obstacles to the improvement of management

2- Factors motivating management: Values, Goal, Standards, resource.

3- Management Process: Decision- role of decision making in management. Meaning and elements of process- planning, controlling the plan and evaluating, decision making.

Planning-importance, techniques, types of plan

Controlling the plan in action

Evaluation: Importance, relationship to goals, Techniques of self evaluation. Time and energy management: organization and work in relation to time and efficiency

4- Work simplification: Methods, study of organization of work centres in the kitchen, work spaces, storage and equipments

5-Ergonomics: Definition, Scope, nature of work in house hold and other occupations, physiology of neuromuscular functions in relation to occupational ergonomics, job analysis for occupational ergonomics, anthropometry in relation to occupational ergonomics.

6-Family finance: family income, expenditure, economic problems, family budget and saving and investments.

7-Consumer Economics: concepts, theory of consumer behavior, market and market price, consumer credits and consumer protection.

8- Entrepreneurship Management: concept, need and process. Types of enterprise, Role of enterprise in national and global economics.

9-Housing

- Family's housing needs- protective, economic, affectional, social standard of living, housing goals, style, function, occupation
- Factors influencing selection and purchase of site for house building
- Planning different rooms
- Landscape planning- principles and applications

10-Financial considerations- availability of funds for housing

11- Interior designing and furnishing elements and principles of art and design and their application

12- Furniture: Arrangement of furniture for living, sleeping, dining and multipurpose room

13- Furnishing fabrics: Types of curtains, draperies, floor coverings, rugs and carpets, cushion covers, bed linen and table linen

14- Accessories and their role in interiors

### **Textile & Clothing**

1- Introduction and classification of textiles

2- Manufacture and physical, chemical properties and uses of following fabric-

- Natural - cotton, linen, wool and silk
- Man made- rayon, polyester and acrylic

3- Classification of Yarns, simple, novelty metallic and texturised yarns

4- Fabric construction methods- Fetting, braiding, bonding, netting, knitting and weaving

5- Fabric finishes:

- Basic - Singeing, beatling, shearing, sizing, tentering, bleaching, calendaring and mercerizing
- Texturizing- embossing, moiring and napping
- Functional- water resistant and repellent, flame retardant, soil and stain resistant, moth proofing finishes
- Dyeing and printing: Types of dyes, general theory of dyeing, tie and dye and batik
- Difference between dyeing and printing, block printing, roller printing, screen printing and stencil printing

6- **Textile Testing and Quality control:** standardizing and testing conditions, Study of Fibre, yarn and fabric properties, fabric colour, fastness testing

7- **Textile and Apparel designing:** anthropometrical measurements, pattern making, lay out planning, different types of stitches, seams, dart manipulations, patten alterations. alteration for fitting. Basic body blocks.

8- **Fashion designing:** Principles of elements and arts in dress designing. Use of software's in designing. Fashion trends in India and abroad.

9- Traditional textiles and embroideries of India

## **Extension and Communication**

1-Extension: Meaning, changing concepts of extension, philosophy, principles, functions, components of extension.

2-**Extension Teaching:** Methods and process, steps in extension teaching methods: Teaching Aids: types, characteristics and functions: Role of Media in the process of Learning Extension techniques and methods- personal contacts, demonstration, literature group discussion. Audio Visual Aids in Extension. Classification and importance Selection , preparation and effective use of A.V. Aids in extension work

3-**Extension systems:** Outline of National Extension Systems in India: Community Development Programme: KVK, Role of State Governments in Extension Programmes related to Community Health and other policies, Central Social Welfare Board, Panchayati Raj System.

4- **Community:** Definition, concept and characteristics of a community, Structure and organization of different types of communities: tribal, rural and urban, social groups and Organizations

5. **Community Leadership:** Concept, leadership theories, patterns and characteristics of leadership in different communities, Role of leadership in community development.

### **6- Programme planning**

- Programme cycle and its components
- Preparatory work with local people- involve people, collect basic data, need assessment, community based support
- Designing the project- defining objectives, identifying resources, methods/approach, feasibility and work plan
- Implementing
- Monitoring and evaluation
- Documentation-Need for reporting and recording

7- **Communication Systems:** Concept, types, Function and significance. Elements, characteristics of mass communications. Media systems, trends and techniques. Contemporary issues in media. Human rights and media, women and media Advertisements.

9- Gender and Development

- Capacity building for women: education, decision making abilities and opportunities, awareness and information on legal and political issues
- Women's organizations and collective strength: Women's action groups, women's participation in development initiative, self help group, women in agriculture, women in industry and support services.
- National and International efforts for gender empowerment;
- Policies and programmes for women development

#### 10- Research Methodology:

- Sampling, Tools and Techniques of Data Collection, Interview, Questionnaire, Observation, Case Study and Projective techniques.
- Research Management Techniques:
- PERT, CPM , SWOT analysis
- Types of variables:
- Theory of probability:
- Conceptual understanding of statistical measures. Classification and tabulation of data. Measurement of central tendency, measures of variation.
- Frequency distribution, histogram, Frequency, polygons, Oliver;
- Normal distribution- Use of normal probability tables
- Parametric and non-parametric tests.
- Testing of hypothesis. Levels of significance
- Chi-square test. Application t` test for small samples.
- Co-relation, coefficient of co-relation, rank co- relation
- Regression and prediction
- Analysis of variance- one way and two- way classification.