**North Lakhimpur College (Autonomous) Course Code under CBCS**

**Home science**

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| **Sem** | **Course** | **Course Code** | **Credit** | **Title** |
| **I** | Core Course Theory | HSC –CC-T4-101 | 4 | Human Development I: The Childhood Years (T) |
| Core Course Practical | HSC –CC-P2-101 | 2 | Human Development I: The Childhood Years (Practical) |
| Core Course Theory | HSC –CC-T4-102 | 4 | Food and Nutrition (T) |
| Core Course Practical | HSC –CC-P2-102 | 2 | Food and Nutrition ( Practical) |
| Generic Elective Theory | HSC –GE-T4-101 | 4 | Human Nutrition (Theory) |
| Generic Elective Practical | HSC –GE-P2-101 | 2 | Human Nutrition (Practical) |
| **II** | Core Course Theory | HSC –CC-T4-201 | 4 | Dynamics of Communication & Extension (T) |
| Core Course Practical | HSC –CC-P2-201 | 2 | Dynamics of Communication & Extension (Practical) |
| Core Course Theory | HSC –CC-T4-202 | 4 | Resource Management (T) |
| Core Course Practical | HSC –CC-P2-202 | 2 | Resource Management (Practical) |
| Generic Elective Theory | HSC –GE-T4-201 | 4 | Nutrition: A lifespan Approach (T) |
| Generic Elective Practical | HSC –GE-P2-201 | 2 | Nutrition: A lifespan Approach (P) |
| **III** | Core Course Theory | HSC –CC-T4-301 | 4 | Introduction to Textiles (T) |
| Core Course Practical | HSC –CC-P2-301 | 2 | Introduction to Textiles (Practical) |
| Core Course Theory | HSC –CC-T4-302 | 4 | Communication Systems and Mass Media (T) |
| Core Course Practical | HSC –CC-P2-302 | 2 | Communication Systems and Mass Media (Practical) |
| Core Course Theory | HSC –CC-T4-303 | 4 | Personal Finance & Consumer Studies (T) |
| Core Course Practical | HSC –CC-P2-303 | 2 | Personal Finance & Consumer Studies (Practical) |
| Generic Elective Theory | HSC –GE-T4-301 | 4 | Interior Design (T) |
| Generic Elective Practical | HSC –GE-P2-301 | 2 | Interior Design (P) |
| Skill Enhancement Course | HSC –SE-T2-301 | 2 | Home Based Catering  (T) |
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| **IV** | Core Course Theory | HSC –CC-T4-401 | 4 | Human Development II: Development in Adolescence  and Adulthood (T) |
| Core Course Practical | HSC –CC-P2-401 | 2 | Human Development II: Development in Adolescence  and Adulthood (Practical) |
| Core Course Theory | HSC –CC-T4-402 | 4 | Nutrition: A Life Cycle Approach(T) |
| Core Course Practical | HSC –CC-P2-402 | 2 | Nutrition: A Life Cycle Approach (Practical) |
| Core Course Theory | HSC –CC-T4-403 | 4 | Fashion Design Concepts (T) |
| Core Course Practical | HSC –CC-P2-403 | 2 | Fashion Design Concepts (Practical) |
| Generic Elective Theory | HSC –GE-T4-401 | 4 | Fashion: Design and Development (T) |
| Generic Elective Practical | HSC –GE-P2-401 | 2 | Fashion: Design and Development (P) |
| Skill Enhancement Course | HSC –SE-T2-401 | 2 | Maternal and Child Nutrition (T) |
| **V** | Core Course Theory | HSC –CC-T4-501 | 4 | Life Sciences (T) |
| Core Course Practical | HSC –CC-P2-501 | 2 | Life Sciences (Practical) |
| Core Course Theory | HSC –CC-T4-502 | 4 | Physical Sciences (T) |
| Core Course Practical | HSC –CC-P2-502 | 2 | Physical Sciences (Practical) |
| Discipline Specific Elective | HSC –DS-T4-501 | 4 | Food Science (T) |
| DSE (Practical) | HSC –DS-P2-501 | 2 | Food Science (P) |
| Discipline Specific Elective | HSC –DS-T4-502 | 4 | Therapeutic Nutrition (T) |
| DSE (Practical) | HSC –DS-P2-502 | 2 | Therapeutic Nutrition (P) |
| **VI** | Core Course Theory | HSC –CC-T4-601 | 4 | Research Methodology in Home Science (T) |
| Core Course Practical | HSC –CC-P2-601 | 2 | Research Methodology in Home Science (Practical) |
| Core Course Theory | HSC –CC-T4-602 | 4 | Socio Economic Environment (T) |
| Core Course Practical | HSC –CC-P2-602 | 2 | Socio Economic Environment (Practical) |
| Discipline Specific Elective | HSC –DS-T4-601 | 4 | Childhood Disability and social action (T) |
| DSE (Practical) | HSC –DS-P2-601 | 2 | Childhood Disability and social action (P) |
| Discipline Specific Elective | HSC –DS-T4-602 | 4 | Indian Textile Heritage (T) |
| DSE (Practical) | HSC –DS-P2-602 | 2 | Indian Textile Heritage (P) |

**SEMESTER I**

**CORE COURSES**

**Course Title: HUMAN DEVELOPMENT I: THE CHILDHOOD YEARS**

**CODE: HSC- CC-T4-101**

**THEORY- (56+14)**

**Unit I: Introduction to Human Development 14 Marks**

 Definition, History and Interdisciplinary nature of Human Development

 Scope of Human Development in contemporary society (changing trends)   
 Domains, Stages and Contexts of development   
 Principles of Growth and Development

**Unit II: Prenatal Development, Birth and the Neonate** **14 Marks**

 Reproductive health

 Conception, Pregnancy and Birth   
 Capacities and care of the new born

**Unit III: Infancy and Preschool years 14 Marks**

 Physical and Motor development   
 Social and Emotional development   
 Cognitive and Language development

**Unit IV: Middle Childhood years 14 Marks**

 Physical and motor Development   
 Social and Emotional development   
 Cognitive and Language development

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**PRACTICAL**

**Course Title: HUMAN DEVELOPMENT I: THE CHILDHOOD YEARS**

**CODE: HSC- CC-P2-101**

**MARKS: (24+6=30)**

**Marks: 30**

1. Methods of study and their use

 Interview

 Observation   
 Narratives

2. Audio and video sources of studying prenatal development, infancy, early childhood

and middle childhood period

3. Cultural practices related to pregnancy and infancy

4. Plan and develop activities to facilitate development in different domains. Preparation

of material for parents children (poster, toys etc )

5. Study the role of salient others in child’s life- familial and non-familial

6. Survey of selected resources for family and children in the community and the market

7. Psychological Tests- Personality test, Inter inventory test

**RECOMMENDED READINGS**

Bee. H. (1995). The Developing Child. Harper Collins.

Berk, L. E. (2007). Development through the lifespan. Delhi: Pearson Education.

Rice. F. P. (1998). Human Development: A lifespan approach. New Jersey: Prentice

Hall.

 Santrock, J. W. (2007). A topical approach to life-span development. New Delhi: Tata

McGraw- Hill.

Singh, A. (Ed). 2015. Foundations of Human Development: A life span approach. New

Delhi: Orient BlackSwan.

**Course Title: FOOD AND NUTRITION**

**CODE: HSC- CC-T4-102**

**THEORY- (56+14)**

**Unit I: Basic concepts in food and nutrition 6 Marks**

 Basic terms used in study of food and nutrition   
 Understanding relationship between food, nutrition and health   
 Functions of food-Physiological, psychological and social

**Unit II: Nutrients 20 Marks**

Functions, Dietary Sources and clinical manifestations of deficiency/ excess of the following   
nutrients:

 Energy, Carbohydrates, lipids and proteins  Fat soluble vitamins-A, D, E and K

 Water soluble vitamins - thiamin, riboflavin, niacin, pyridoxine, folate, vitamin B12 and   
vitamin C

 Minerals - calcium, iron, zinc and iodine

**Unit III: Methods of cooking 5 Marks**

 Dry, moist, frying and microwave cooking

 Advantages, disadvantages and the effect of various methods of cooking on foods

**Unit IV: Food Groups 20 Marks**

 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

**Unit V: Nutrient losses in cooking and enhancing the nutritional quality of foods- 5 Marks**

Supplementation, Germination, Fermentation, Fortification and GM foods

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**PRACTICAL**

**Course Title: FOOD AND NUTRITION**

**CODE: HSC- CC-P2-102**

**Credit: (24+6=30)**

**PRACTICAL:**

1. Weights and measures; preparing market order and table setting

2. Food preparation, understanding the principals involved, nutritional quality and portion size

**(any two from each group)**

 Beverages: Hot tea/coffee, Milk shake/ lassi, fruit based beverages

 Cereals: Boiled rice, pulao, chapatti, parantha, puri, pastas   
 Pulses: Whole, dehusked

 Vegetables: curries, dry preparations

 Milk and milk products: Kheer, custard   
 Meat, Fish and poultry preparations

 Egg preparations: Boiled, poached, fried, scrambled, omelettes, egg pudding  Soups: Broth, plain and cream soups

 Baked products: Biscuits/cookies, cream cakes, sponge cake preparations, tarts and pies  Snacks: pakoras, cutlets, samosas, upma, poha, sandwiches

 Salads: salads and salad dressings.

 Fermented products: idli, dosa, appam, batura, kulcha, dhokla

**RECOMMENDED READINGS**

 Bamji MS, Krishnaswamy K, Brahmam GNV (2009). Textbook of Human Nutrition, 3rd   
 edition. Oxford and IBH Publishing Co. Pvt. Ltd.

 Srilakshmi (2007). Food Science, 4th Edition. New Age International Ltd.

 Wardlaw and Insel MG, Insel PM (2004). Perspectives in Nutrition, Sixth Edition. Mosby.   
 Chadha R and Mathur P (eds). Nutrition: A Lifecycle Approach. Orient Blackswan, New   
 Delhi. 2015

 Khanna K, Gupta S, Seth R, Mahna R, Rekhi T (2004). *The Art and Science of Cooking: A*   
 *Practical Manual,* Revised Edition. Elite Publishing House Pvt Ltd.

 Raina U, Kashyap S, Narula V, Thomas S, Suvira, Vir S, Chopra S (2010). Basic Food Preparation:   
 A Complete Manual, Fourth Edition. Orient Black Swan Ltd.

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**GENERIC ELECTIVES (GE)**

**Course Title: HUMAN NUTRITION**

**CODE: HSC-GE-T4-101**

**THEORY- 4 (56+14)**

**Unit I: Basic Concepts in Nutrition 14 Marks**

 Basic terms used in nutrition

 Understanding relationship between food, nutrition and health

 Functions of food-Physiological, psychological and social

 Basic food groups and concept of balanced diet

**Unit II: Nutrients 22 Marks**

Energy- Functions, sources and concept of energy balance.

Functions, Recommended Dietary Allowances, dietary sources, effects of deficiency and/ or excess consumption on health of the following nutrients:

 Carbohydrates and dietary fibre,

 Lipids

 Proteins

 Fat soluble vitamins-A, D,E and K

 Water soluble vitamins - Thiamin, Riboflavin, Niacin, Pyridoxine, Folate,   
 Vitamin B12 and Vitamin C

 Minerals - Calcium, Iron, Zinc and Iodine

**Unit III: Nutrition during Lifecycle 20 Marks**

Physiological considerations and nutritional concerns for the following life stages:   
  Adult man / woman

 Preschool children   
 Adolescent children   
 Pregnant woman

 Nursing woman and infant

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**PRACTICAL**

**Course Title: HUMAN NUTRITION**

**CODE: HSC-GE-P2-101**

**Credit: 2 (24+6=30)**

PRACTICAL:

1.Identifying Rich Sources of Nutrients

- Energy, Protein, Iron, Calcium, Fiber, Vitamin A, Ascorbic acid

2. Introduction to Meal Planning

 Basic food groups

 Use of food exchange list for planning nutritious diets /Snacks for

- Adult man / woman of different activity levels

- Pre school children

- Adolescent children

- Pregnant woman

- Nursing woman

RECOMMENDED READINGS:

 Wardlaw and Insel MG, Insel PM (2004). Perspectives in Nutrition. Sixth Edition, McGraw Hill.

 Srilakshmi B (2012).  *Nutrition Science.*4th Revised Edition, New Age Interntional

Publishers.

 Khanna K, Gupta S, Seth R, Passi SJ, Mahna R, Puri S (2013). Textbook of Nutrition and   
 Dietetics. Phoenix Publishing House Pvt. Ltd.

 ICMR(2010) Recommended Dietary Allowances for Indians. Published by National   
 Institute of Nutrition, Hyderabad.

 Chadha R and Mathur P eds. (2015). Nutrition : A Lifecycle Approach. Orient Blackswan,   
 New Delhi.

 Seth V and Singh K (2006). *Diet Planning through the Life Cycle: Part 1 Normal Nutrition.*   
 *A Practical Manual.* Elite Publishing House Pvt. Ltd. New Delhi.

 Gopalan C, Rama Sastri BV, Balasubramanian SC (1989) *Nutritive Value of Indian Foods.*   
 National Institute of Nutrition, ICMR, Hyderabad.

**SEMESTER II**

**CORE COURSES**

**Course Title: DYNAMICS OF COMMUNICATION AND EXTENSION**

**CODE- HSC-CC-T4-201  
 THEORY: (56+14)**

**Unit I: Communication: Concepts 18 Marks**

 Historical background, concept and nature

 Functions of Communication

 Types of Communication - communication transactions; Formal and informal

communication; Verbal and Non-verbal Communication

 Scope of Communication- Education, training and learning industry, Motivation and

Management, Corporate Communication, Management of Organisations, Advertising and Public relations

 Communication and mainstream media- newspaper, radio, television and Cinema, ICTs   
 and web based communication

 Communication for social change

**Unit II: Understanding Human Communication 20 Marks**

 Culture and communication- Signs, symbols and codes in communication

 Postulates/Principles of Communication

 Elements of Communication and their characteristics

 Models of Communication

 Barriers to Communication

**Unit III: Communicating Effectively 8 Marks**

Concept, nature and relevance to communication process:   
 Empathy

 Persuasion   
 Perception   
 Listening

**Unit IV: Communication for Extension 10 Marks**

 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

**RECOMMENDED READINGS**

 Barker, L. (1990). “Communication”, New Jersey: Prentice Hall, Inc; 171.   
 Devito, J. (1998) Human Communication. New York: Harper & Row.   
 Patri and Patri (2002); Essentials of Communication. Greenspan Publications

**PRACTICAL**

**Course Title: DYNAMICS OF COMMUNICATION AND EXTENSION**

**CODE- HSC-CC-P2-201  
Credit: 2 (24+6=30)**

PRACTICAL

1. Developing skills in planning and conducting small group communication.

2. Review of media on selected issues

3. Design and use of graphic media/ computer aided aids

RECOMMENDED READINGS

 Barker, L. (1990). “Communication”, NeW Jersey: Prentice Hall, Inc; 171.  
 Devito, J. (1998) Human Communication. New York: Harper & Row.   
 Patri and Patri (2002); Essentials of Communication. Greenspan Publications

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**Course Title: RESOURCE MANAGEMENT**

**CODE- HSC-CC-T4-202**

**THEORY: (56+14)**

**Unit I: Introduction to Resource Management 12 Marks**

 Concept, universality and scope of management

 Approaches to management

 Ethics in management   
 Motivation Theory

**Unit II: Resources 12 Marks**

 Understanding meaning, classification and characteristics of resources, factors affecting   
utilization of resources.

 Maximizing use of resources and resource conservation.

**UNIT III: Management of specific resources 12 Marks**

 Availability and management of specific resources by an individual/ family

- Money

- Time

- Energy

- Space

 Application of Management Process in:

- Event Planning & Execution

**Unit IV: Functions of Management: An overview 20 Marks**

 Decision Making

 Planning

 Supervising   
 Controlling   
 Organizing   
 Evaluation

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**PRACTICAL**

**Course Title: RESOURCE MANAGEMENT   
CODE- HSC-CC-P2-202**

**MARKS: (24+6)**

**PRACTICAL**

1. Resource conservation and optimization/green technologies (natural resources): Portfolio

2. Identification and development of self as a resource.

- SWOT analysis-who am I and Micro lab

- Building Decision Making abilities through management games

3. Preparation of time plans for self and family

4. Time and Motion Study

5. Event planning ,management and evaluation-with reference to

- Managerial process

- Resource optimization - time, money, products, space, human capital

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**Course Title: NUTRITION: A LIFESPAN APPROACH   
 CODE- HSC-GE-T4-201**

**CREDIT-4**

**THEORY: 70**

**MARKS :( 56+14)**

**Unit I: Principles of meal planning 8 Marks**

**** Balanced diet

 Food groups

 Food exchange list

 Factors effecting meal planning and food related behaviour.  Dietary guidelines for Indians and food pyramid

**Unit II: Nutrient requirements 8 Marks**

 Concept of Dietary Reference Intakes

 Overview of methods for assessment of nutrient needs

**Unit III: Nutrition for adulthood and old age 10 Marks**

 Adult: Nutrient requirements for adult man and woman, RDA, nutritional guidelines, nutritional concerns, diet and lifestyle related diseases and their prevention

 Elderly - Physiological changes in elderly, RDA, nutritional guidelines, nutritional and health concerns in old age and their management, factors contributing to longevity

**Unit IV: Nutrition during pregnancy and lactation 15 Marks**

 Pregnancy - Physiological changes in pregnancy, RDA, nutritional guidelines, nutritional needs, effect of nutritional status on pregnancy outcome, optimal weight gain and its components, nutrition related problems in pregnancy and ways to control them.

 Lactation - Physiology of lactation, RDA and nutritional needs of a nursing mother, nutritional guidelines

**Unit V: Nutrition during childhood 15 Marks**

 Growth and development, growth reference/ standards, RDA, nutritional guidelines,   
 nutritional concerns and healthy food choices

- Infants

- Preschool children

- School children

- Adolescents

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**PRACTICAL**

**Course Title: NUTRITION: A LIFESPAN APPROACH   
 CODE- HSC-GE-P2-201**

**CREDIT-2**

**MARKS :( 24+6)**

**PRACTICAL**

Unit I: Introduction to meal planning

-Use of food exchange list

**Unit II: Planning and preparation of diets and dishes for**

 Young adult

 Pregnant and Lactating woman  Preschool child

 School age child and adolescents  Elderly

Unit III: Planning complementary foods for Infants

**RECOMMENDED READINGS:**

 Khanna K, Gupta S, Seth R, Passi SJ, Mahna R, Puri S (2013). *Textbook of Nutrition and*   
 *Dietetics*. Phoenix Publishing House Pvt. Ltd.

 Wardlaw GM, Hampi JS, DiSilvestro RA (2004). *Perspectives in Nutrition,* 6th edition.   
 McGraw Hill.

 ICMR (2011) *Dietary Guidelines for Indians.*Published by National Institute of Nutrition,   
 Hyderabad.

 ICMR (2010) *Recommended Dietary Allowances for Indians .*Published by National   
 Institute of Nutrition, Hyderabad.

**SEMESTER III**

**CORE COURSES**

**Course Title: INTRODUCTION TO TEXTILES**

**CODE- HSC-CC-T4-301**

**THEORY: (56+14)**

**Unit I: Introduction to textile fibres 10 Marks**

- Morphology of textile fibres

- Primary and secondary properties

- Fibre classification

**Unit II: Production, chemistry, properties and usage of fibres 15 Marks**

- Natural fibre: Cotton, Flax, Silk and Wool

- Man-made fibers: Rayon, Polyamides, Polyester, Acrylic, Olefins (Polyethylene and

Polypropylene) and elastomeric fibres

**Unit III: Production and properties of Yarns 15 Marks**

- Yarn construction: Mechanical Spinning (Cotton system, Wool system, Worsted system)

Chemical Spinning (Wet, Dry, Melt)

- Types of yarns: Staple and Filament, Simple yarns, Complex yarns

- Yarn Properties-Yarn Numbering, Yarn Twist

- Textured yarns: Types and properties

- Difference between Threads and Yarns

- Blends: Types of blends and purpose of blending

**Unit IV: Techniques of fabric construction 10 Marks**

**Weaving:** - Parts of a loom

- Operations and motions of the loom

- Classification of weaves- construction, characteristics, usage

**Knitting: -**Classification of knits

-Construction and properties of warp and weft knits

**Non-wovens:** -Types

- Construction

- Properties and usage

**Unit V: Basics of Wet Processing 06 Marks**

 Classification and uses of finishes

 Fundamentals of dyeing and printing

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**PRACTICAL**

**Course Title: INTRODUCTION TO TEXTILES**

**CODE- HSC-CC-P2-301**

**MARKS :( 24+6)**

**PRACTICAL**

1. Fibre Identification tests –Visual, burning, microscopic and chemical

2. Yarn Identification – Single, ply, cord, textured, elastic, monofilament, multifilament and spun yarn

3. Thread count and balance

4. Dimensional stability

5. Weaves- Identification and their design interpretation on graph

6. Fabric analysis of light, medium & heavy weight fabrics (five each)

- Fibre type

- Yarn type

- Weave

- GSM

- End use

- Trade name

7. Tie and Dye

**RECOMMENDED READINGS:**

1. Corbman, P.B., (1985) Textiles- Fiber to Fabric (6th Edition), Gregg Division/McGraw Hill Book Co., US.

2. Joseph, M.L., (1988) Essentials of Textiles (6th Edition), Holt, Rinehart and Winston Inc., Florida.

3. Vilensky G., (1983) Textile Science, CBS Publishers and Distributors, Delhi.

4. Tortora, G. Phyllis, Understanding Textiles, McMillan Co. USA.

5. Sekhri S., (2013) Textbook of Fabric Science: Fundamentals to Finishing, PHI Learning, Delhi

**Course Title: COMMUNICATION SYSTEMS AND MASS MEDIA**

**CODE- HSC-CC-T4-302**

**THEORY: (56+14)**

**Unit I: Self and Communication 10 Marks**

 Awareness of self in communication

 Intrapersonal Communication

 Self-concept and self esteem

**Unit II: Interpersonal Communication 14 Marks**

 Concept, types and functions of interpersonal communication

 Dyadic, small and large group communication

 Stages in human relationship development

 Small group communication: types and functions

**Unit III: Organization, Public and Mass Communication 18 Marks**

 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

 Intercultural communication- concept, stages and barriers

 Relationship between culture and communication

**Unit IV: Mass Media 14 Marks**

 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.

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**PRACTICAL**

**Course Title: COMMUNICATION SYSTEMS AND MASS MEDIA (P)**

**CODE- HSC-CC-P2-302**

**MARKS :( 24+6)**

**PRACTICAL**

1. Know yourself exercises.

2. Studying group dynamics in organizations- formal and informal.

3. Audience analysis- readership, listenership and viewership studies

4. Content analysis of mass media - **Print, electronic and new media (Any two)**

**RECOMMENDED READINGS**

 Devito, J. (1998) Human Communication. New York: Harper & Row.

 Barker, Larry Lee. (1990) Communication. Eaglewood Cliffs, New Jersey: Prentice Hall.

 McQuail, D. (2000) Mass Communication Theories. London: Sage Publications

 Baran, Stanley J (2009). Introduction To Mass Communication, McGraw hill medical publishing

 Baran, Stanley J (2014). Mass Communication Theory, Wadsworth Publishing

 Vivian, J (2012). The Media Of Mass Communication, Pearson

 Dominick, Joseph R. (2012). Dynamics of mass communication: media in transition , McGraw hill education

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**Course Title: PERSONAL FINANCE AND CONSUMER STUDIES**

**CODE- HSC-CC-T4-303**

**THEORY: (56+14)**

**Unit I: Income and Expenditure 14 Marks**

 Household Income – Types, Sources, Supplementation of family income, use of family income, budgets, maintaining household accounts

 Factors influencing expenditure pattern

 Family savings and investments- need ,principles, channels of investment, tax implications

 Consumer credit- need, sources, credit cards, Housing finance

 Personal finance management – tax implications, calculation of personal income tax,

 Guidelines for wise buying practices

**Unit II: Consumer in India: Consumer problems and education 14 Marks**

 Definition of a consumer

 Role of consumers in the economy, National Income, Per Capita Income, Household wise distribution of income

 Changing nature of the business world –e-commerce, e-business

 Types of consumer problems – products and service related, investment and infrastructure related, Causes and solutions

**UNIT III: Consumer rights and responponsibilities 14 Marks**

 Consumer education and empowerment

 Consumer rights and responsibilities

 Consumer organizations - origin, functioning, role and types.

 Consumer cooperatives - role, history and growth in India, PDS Kendriya Bhandars.

**Unit IV: Consumer Protection 14 Marks**

 Concept of consumer protection

Basic legislative framework for consumer protection in India, Consumer Protection Act 1986 COPRA, Alternative redressal mechanisms, Mediation centres

 Standardization and quality control measures: ISI, FPO, AGMARK, ISO, Eco mark, Wool mark, Silk mark, Cotton mark, Handloom mark, BEE star labelling and others

 Regulations on Food Labelling and Claims: FSSAI, Codex for consumers

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**PRACTICAL**

**Course Title: PERSONAL FINANCE AND CONSUMER STUDIES**

**CODE- HSC-CC-P2-303**

**MARKS :( 24+6)**

**PRACTICAL**

1. Evaluation and designing of advertisements in the print media including products, services and social ads.

2. Evaluation and designing of informative and attractive labels of different type of food products.

3. Case study of banks or post offices to understand their services and products, learning to fill different bank forms

4. Food adulteration tests (to be specified)

**RECOMMENDED READINGS**

 Khanna S.R., Hanspal S., Kapoor S. &Awasthi H.K., 2007, Consumer Affairs, Universities Press India Pvt. Ltd.

 Sawhney, H.K. & Mital, M.,2007, Family Finance & Consumer Studies, Elite Publishing House Pvt. Ltd.

 Seetharaman, P. and Sethi, M.,2001, Consumerism: Strength and Tactics, New Delhi: CBS Publishers.

**GENERIC ELECTIVE**

**Course Title: INTERIOR DESIGN**

**CODE- HSC-GE-T4-301**

**THEORY: (56+14)**

**Unit I: Design Fundamentals 28 Marks**

 Objectives of Art & Interior Design.

 Types of Design: Structural & Decorative.

 Elements of Content: Space, Point, Line, Shape, Form, Texture, Light & Color.

 Elements of Order: Scale, Similarity, Proximity, Sequence, Trends, Themes, Geometrical Organization.

 Principles of Composition – Rhythm, Balance, Proportion, Emphasis, Unity, (Variety, Simplicity/Economy, Suitability).

 Composition of a Drawing – Harmony, Clarity, Adequacy.

 Colour dimensions, systems, theories and harmonies

 Design Drawing – Drawing as a language to explore & communicate Ideas.

**Unit II: Furniture & Furnishings: Historical Perspectives & Contemporary Trends 28 Marks**

 Architectural Styles –based on themes and main periods, like post Renaissance and modern style.

 Contemporary Trends in Interior Design with respect to furniture, furnishings & accessories.

 Furniture – Types, Construction, Selection and purchase, Arrangement, Care and maintenance

 Furnishings – selection, care and maintenance of fabrics used for -

Soft furnishings: curtains and draperies, upholstered furniture, cushions and pillows, etc.

Floor coverings

 Accessories – Uses, Classification, Design, Selection & Arrangement.

 Traditional and Modern Surface Finishes – types and uses

o Furniture

o Wall

o Floor

o Ceilings

o Roofing

 Lighting applications (Energy efficient lighting design – number and type of lamps and luminaires for efficiency in lighting).

 Accessories – Uses, Classification, Design, Selection & Arrangement.

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**PRACTICAL**

**Course Title: INTERIOR DESIGN**

**CODE- HSC-GE-P2-301**

**MARKS :( 24+6)**

**PRACTICAL**

 Drawing

Introduction to drawing instruments & tools (manual & computer tools)

- Drawing lines (freehand & with drawing instruments) - both 2-dimensional & 3-dimensional.

- Lettering.

- Sketching (figures, buildings, trees & plants, vehicles) - both 2-dimensional & 3-dimensional

- Rendering for different surfaces such as trees, brick, grass, water, wood, stone, earth, concrete using

 Water Colors.

 Stubbing.

 Pencil Colors.

 Preparation of catalogue comprising pictures denoting application of Art & Elements of Design; Color- Color Wheel, Dimension & Harmonies of Color.

 Floor plans with rendering (Theme based- Manual/Computer aided)

 Elevation & perspective plans with rendering (Manual/Computer aided)

 Furniture & furnishing plans of specific areas- Critical Analysis

 Preparation of portfolio on any one of the following

- Wall coverings & decorations (pictures, etc)

- Floor coverings & decorations.

- Window & door treatments.

- Lighting systems.

- Artifacts (sculptures, ceramics/terracotta, handicrafts, flower arrangements, etc.)

- Fittings and fixtures.

- Wood and its substitutes.

**RECOMMENDED READINGS**

 Lawrence M, (1987), Interior Decoration, New Jersey: Chartwell Books.

 Riley & Bayen., (2003), The Elements of Design, Mitchell Beazley.

**SKILL ENHANCEMENT COURSES (SEC)**

**Course Title: HOME BASED CATERING**

**CODE: HSC-SE-T2-301**

**THEORY: (24+06)**

**Unit I. Introduction to Food Service 4 Marks**

 Factors contributing to the growth of food service industry

 Kinds of food service establishments

**Unit II. Food Production 8 Marks**

 Menu planning: Importance of menu, factors affecting menu planning, menu planning for different kinds of food service units

 Food Purchase and Storage

 Quantity Food production: Standardization of recipes, quantity food preparation techniques, recipe adjustments and portion control

 Hygiene and Sanitation

**Unit III. Resources 6 Marks**

 Money

 Manpower

 Time

 Facilities and equipment

 Utilities

**Unit IV. Planning of A Food Service Unit 6 Marks**

 **Preliminary Planning**

 **Planning the set up:**

a) Identifying resources

b) Developing Project plan

c) Determining investments

d) Project Proposal

**RECOMMENDED READINGS:**

 West B Bessie & Wood Levelle (1988) Food Service in Institutions 6th Edition Revised By Hargar FV, Shuggart SG, & Palgne Palacio June, Macmillian Publishing Company New York.

Sethi Mohini (2005) Institution Food Management New Age International Publishers

 Knight J B & Kotschevar LH (2000) Quantity Food Production Planning & Management 3rd edition John Wiley & Sons

 Philip E Thangam (2008) Modern Cookery for teaching and Trade Part I & II Orient Longmam

**SEMESTER IV**

**CORE COURSES**

**Course Title: HUMAN DEVELOPMENT II: DEVELOPMENT IN ADOLESCENCE**

**AND ADULTHOOD**

**CODE: HSC–CC-T4-401**

**THEORY: (56+14)**

**Unit I: Introduction to Adolescence 14 Marks**

 Developmental tasks during Adolescence

 Puberty, sexual maturity, nutrition, health, and psychological well-being

 Self and identity

 Family and peer relationships

 Adolescent interface with media

**Unit II: Cognitive, Language and Moral development 14 Marks**

 Perspectives on cognitive development

 Development of intelligence and creativity

 Adolescent language

 Adolescent morality

**Unit III: Introduction to Adulthood 14 Marks**

 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

**Unit IV: Socio-emotional and Cognitive development 14 Marks**

**** Socio-emotional and Cognitive changes throughout adulthood

 Marriage-contemporary trends

 Parenting and grand parenting

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**PRACTICAL**

**Course Title: HUMAN DEVELOPMENT II: DEVELOPMENT IN ADOLESCENCE**

**AND ADULTHOOD**

**CODE: HSC-CC-P2-401**

**MARKS :( 24+6)**

**PRACTICAL**

1. To study physical and sexual changes in adolescence

2. To study cognitive development and creativity during adolescence

3. Case profile of an adolescent- including study of self, family relationships and peer relationships.

4. Use of interview/questionnaire method to study adult roles (at least one male and

female)

- Father/husband

- Home maker

- Employed woman

- Grandfather/Grandmother

- Single parent

- College-going young adults

5. Familiarity with Psychological Tests of Intelligence and Personality- any four

**RECOMMENDED READINGS**

 Berk, L. E. (2007). Development through the lifespan. Delhi: Pearson Education.

 Rice. F. P. (1998). Human Development: A lifespan approach. New Jersey: Prentice Hall.

 Rutter, M. and Rutter, M. (1992) Developing Minds. Challenge and continuity across the life span. London: Penguin.

 Santrock, J. W. (2007). A topical approach to life-span development. New Delhi: Tata McGraw Hill.

 Singh, A. (Ed). 2015. Foundations of Human Development: A life span approach. New Delhi: Orient BlackSwan.

 Tennant, M. and Pogson, P. (1995) Learing and Change in the Adult Year, San Francisco: Jossey-Bass.

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**Course Title: NUTRITION: A LIFE CYCLE APPROACH**

**CODE: HSC–CC-T4-402**

**THEORY: (56+14)**

**Unit I: Principles of meal planning 14 Marks**  Food groups and Food exchange list

 Factors affecting meal planning and food related behavior

 Methods of assessment of nutrient requirements

 Dietary guidelines for Indians

**Unit II: Nutrition during adulthood 14 Marks** Physiological changes, RDA, nutritional guidelines, nutritional concerns, energy balance and healthy food choices.

 Adults

Pregnant women

 Lactating mothers

 Elderly

**Unit III: Nutrition during childhood 14 Marks** Growth and development, growth reference/standards, RDA, nutritional guidelines, nutritional concerns, and healthy food choices.

 Infants

 Preschool children

 School children

 Adolescents

**Unit IV: Nutrition for special conditions 14 Marks**

 Nutrition for physical fitness and sport

 Feeding problems in children with special needs

 Considerations during natural and man-made disasters e.g. floods, war.

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**PRACTICAL**

**Course Title: NUTRITION: A LIFE CYCLE APPROACH**

**CODE: HSC–CC-P2-402**

**MARKS :( 24+6)**

**PRACTICALS**

1. Introduction to meal planning

 Rich sources of nutrients

 Use of food exchange lists

2. Planning nutritious diets for:

 Young Adult

 Pregnant/ Lactating woman

 Preschooler

 School age child/Adolescent

 Elderly

3. Planning nutrient rich snacks/dishes for:

 Infants (Complementary foods)

 Children/Adults

**RECOMMENDED READINGS**

 Bamji MS, Krishnaswamy K, Brahmam GNV (2009). Textbook of Human Nutrition, 3rd edition. Oxford and IBH Publishing Co. Pvt. Ltd.

 Khanna K, Gupta S, Passi SJ, Seth R, Mahna R, Puri S (2013). Textbook of Nutrition and Dietetics. Phoenix Publishing House.

 Wardlaw GM, Hampl JS, DiSilvestro RA (2004). Perspectives in Nutrition, 6th edition. McGraw Hill.

 Chadha R and Mathur P (eds). Nutrition: A Lifecycle Approach. Orient Blackswan, Delhi. 2015

Gopalan C, Rama Sastri BV, BalasubramanianSC (1989) Nutritive Value of Indian Foods. National Institute of Nutrition, ICMR, Hyderabad.

 Seth V and Singh K (2005). Diet Planning through the Life Cycle: Part 1 Normal Nutrition. A Practical Manual. Elite Publishing House Pvt. Ltd. New Delhi.

**Course Title: FASHION DESIGN CONCEPTS**

**CODE: HSC–CC-T4-403**

**THEORY: (56+14)**

**Unit I: Fashion 14 Marks**

 Terminology

 Fashion cycle

 Sources of fashion

 Factors favouring and retarding fashion

 Role of a Designer

 Leading Fashion centres and designers

**Unit II: Importance of clothing 14 Marks**  Clothing functions and theories of origin

 Clothing terminology

 Individuality and conformity, conspicuous consumption and emulation

 Selection of clothes for self

 Selection and Evaluation of ready-made garments

**Unit III: Components of garment: classification and application 18 Marks**  Fabric, seams, stitches, thread, shaping methods, dart equivalents

 Sleeves, cuffs, necklines, collars, plackets, yokes, pockets and trims

 Style variation: bodice, skirts, trousers in various silhouettes

**Unit IV: Design 10 Marks**

 Elements and principles of design

 Structural and applied design

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**PRACTICAL**

**Course Title: FASHION DESIGN CONCEPTS**

**CODE: HSC–CC-P2-403**

**MARKS: (24+6)**

**PRACTICAL**

1. Flat sketching of garment components

2. Identification of garment components

3. Interpretation of elements and principles of design concepts from print and visual mediums

4. Study of collections of famous designers /designs

**RECOMMENDED READINGS:**

 Brown, Patty, Rice J., 1998, Ready to Wear Apparel Analysis. Prentice Hall.

 Marshall S G, Jackson H O, Stanley MS, Kefgen M &Specht T, 2009, Individuality in Clothing &

Personal Appearance, 6th Edition, Pearson Education, USA.

 Tate S.L., Edwards M.S., 1982, The Complete Book of Fashion Design, Harper and Row Publications, New York.

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**GENERIC ELECTIVE**

**Course Title: FASHION: DESIGN AND DEVELOPMENT**

**CODE: HSC–GE-T4-401**

**THEORY: (56+14)**

**Unit I: Fashion study 10 Marks**

 Timeline of clothing of draped style of early civilization up to stitched style of 21st century

 Indian costume- Vedic and Mughal

**Unit II: Adoption of fashion 10 Marks**

 Consumer groups- fashion leaders, followers

 Adoption process- Trickle-down theory, bottom up theory & trickle across theory

**Unit III: Development of fashion details 12 Marks**

 Necklines- high and low

 Collars – classification, stand and fall, shawl- flat & raised, shirt collar, peter-pan collar on deep open necklines

 Sleeves and cuffs- cap, leg-o-mutton, shirt maker and bishop, pet al & saddler

 Skirts- high and low waist, gathered, gored, pleated, flared with & without yokes

 Pockets- applied, in-seam & slashed

 Plackets – centralized, asymmetric and double breasted

**Unit IV: Fashion forecasting 10 Marks**

 Forecasting background

 Forecasting industry

 Process: Colour, inspiration, graphics and labelling, fabrication and silhouette, details, mood boards

**Unit V: Designing a successful garment 8 Marks**

 Role of a designer

 Facets of successful design, aesthetics

 Organization of a line

 Fabricating a line

 Cost of a garment

**Unit VI: Fashion centres and designers of the world 6 Marks**

 France, Italy, UK, Japan, NY

 India

**PRACTICAL**

**Course Title: FASHION: DESIGN AND DEVELOPMENT**

**CODE: HSC–GE-P2-401**

**MARKS: (24+6)**

**PRACTICAL**

1. Technical drawing of fashion details: skirts, bodices, sleeves, necklines, collars, accessories.

2. Applied and in- seam pockets

3. Style reading and Development of paper patterns of various collars and sleeves

4. Design variations in bodice through dart manipulation

5. Design variations in skirt on half scale templates

**RECOMMENDED READINGS**

 Armstrong, H.J. (2009), Pattern Making for Fashion Design, Harper Collins Publishers, INC, New York.

 Fringes, G.S. (1999), Fashion from Concept to Consumer, 6th edition, NJ, Prentice Hall.

 Jarnow, J. Dickerson Kitty G (1987), Inside the Fashion Business, New Jersey, Merrill, Prentice Hall.

 Mc. Kelvey, K., Muslow, J., Fashion Forecasting (2008) Wiley Blackwell

 Tate, S.L. and Edwards, M.S.(1982) The Complete Book of Fashion Design, New York, Harper & Row Publication.

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**SKILL ENHANCEMENT COURSES (SEC)**

**Course Title: MATERNAL AND CHILD NUTRITION (T)**

**CODE: HSC–SE-T2-401**

**THEORY: (24+6)**

**Unit I 10 Marks**

 Nutritional needs during pregnancy, common disorders of pregnancy (Anaemia, HIV infection, Pregnancy induced hypertension), relationship between maternal diet and birth outcome.

 Maternal health and nutritional status, maternal mortality and issues relating to maternal health.

**Unit II 8 Marks**

 Nutritional needs of nursing mothers and infants, determinants of birth weight and consequences of low birth weight, Breastfeeding biology, Breastfeeding support and counselling

**Unit III 6 Marks**

Overview of maternal and child nutrition policies and programmes.

**RECOMMENDED READINGS**

 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/s Banarasidas Bhanot Publishers, Jabalpur, India.

 Bamji MS, Krishnaswamy K and Brahmam GNV (Eds) (2009). Textbook of Human Nutrition, 3rd edition. Oxford and IBH Publishing Co. Pvt. Ltd. New Delhi.

National Guidelines on Infant and Young Child Feeding (2006). Ministry of Women and Child Development, Government of India.

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**SEMESTER V**

**CORE COURSES**

**Course Title: LIFE SCIENCES**

**CODE: HSC–CC-T4-501**

**THEORY: (56+14)**

**SECTION A - BOTANY**

**Unit I: Introduction to Plant Kingdom 7 Marks**

 Classification of Plant Kingdom

 Angiospermic plants (Flower with details of its parts)

 Formation of fruit, seed and embryo

 Structure of monocot and dicot seed and seed germination

**UNIT II: Propagation of plants – seed and vegetative 7 Marks**

 Seed Propagation

 Cuttings – stem, leaf and root

 Layering

 Grafting

**Unit III: Types of Garden 7 Marks**

 Ornamental garden

 Kitchen garden

 Herbal Garden

 Concept of organic farming

**Unit IV: Economic Botany 7 Marks**  Vegetables-Cauliflower, carrot, tomato, potato, onion, spinach, gourds, fenugreek

 Fruits-papaya, mango

 Spices and Condiments-clove , pepper, cardamom, cumin, Coriander, asafoetida

 Ornamental and Foliage plants-Rose, Bougainvillea, China rose, fern, asparagus

**SECTION B- ZOOLOGY**

**Unit I 7 Marks**

 Classification of animal kingdom

 Chordates up to 5 major classes, characteristics with examples

 Non chordates up to phyla, characteristics with examples

 Cell as a unit of life, electron microscopic structure and function of a cell

**Unit II 7 Marks**

 Parasites and human diseases

 Plasmodium, Giardia, Enamoeba, Taenia, Ascarisetc

 Economics importance and control of common household pests

 Economic importance of Insect

**Unit III 7 Marks**

 Basics of Genetics

 Chromosomal abnormalities and sex linked inheritance

 Importance of Genetic counseling

**Unit IV 7 Marks**

 Vermicompositing

 Technology, importance and its relevance

 How to start a unit at home

 Maintainance and propogation

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**PRACTICAL**

**Course Title: LIFE SCIENCES**

**CODE: HSC–CC-P2-501**

**MARKS: (24+6)**

**PRACTICAL**

**SECTION A- BOTANY**

 Floral description of few angiospermic families

 Propagation of plants by seed and vegetative methods

 Identification and classification of economically important plants

**SECTION B- ZOOLOGY**

 Survey of animal kingdom (2-3 specimens from each class/ phylum)

 Study of cells – neurons, blood cells, cheek cells

 Vermi composting

**RECOMMENDED READINGS :**

1. Chadha K.L.2012. Handbook of Horticulture. ICAR Publication.

2. Gopalaswamiianger K.S. 1991, Complete gardening in India, Messers Nagaraj And Co. Madras

3. Hartman H.T and Kester D 1986.:Plant Propagation, Principles and Practices Prentice Hall of India Pvt. Ltd. New Delhi.

4. Raven P. and Johnson G. 2010. Biology. Mc Graw Hill Science.

5. Soni N.K. and Soni V. 2010. Fundamentals of Botany. Tata Mc Graw Hill Education.

6. Jordan and Verma,1998, Invertebrate Zoology, S. Chand and Co. Ltd

7. Kotpal,2000,Modern Textbook of Zoology, Rastogi Publications

8. Winchester, A.M. 1967, Genetics, Oxford and IBH Publishing Company

9. Vij and Gupta (2011)Applied Zoology Phoenix Publishing House

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**Course Title: PHYSICAL SCIENCE**

**CODE: HSC–CC-T4-502**

**THEORY: (56+14)**

**SECTION A –CHEMISTRY**

**THEORY**

**Unit I: Carbohydrates 7 Marks**

**** Classification, Monosaccharides - Fischer’s structure of aldoses and ketoses, formation of disaccharides, Polysaccharides- homo and heteropolysaccharides, **importance of carbohydrate as biological fuel**

**Unit II: Lipids 7 Marks**

** Physical & chemical properties of lipids**- fatty acids, glycerol; Storage lipids - triacyl glycerol, Glycerophospholipids, **saturated & unsaturated fat, cholesterol.**

**Unit III: Amino acids as a building blocks of protein 7 Marks**

**** Structure and classification, peptide linkage, Protein structure - Levels of organization - primary, secondary, tertiary and quaternary structure; Denaturation of proteins. Enzyme and Concept of Lock & Key and Induced Fit Theory, **essential and non essential amino acid.**

**Unit IV: Dyes 7 Marks**

**** Classification, Colour and constitution, auxochromes, chromophores; Chemistry of dyeing; Structure and applications of: Azo dyes – Methyl Orange, Triphenyl Methane Dyes – Malachite Green, Rosaniline and Crystal Violet; Phthalein Dyes – Phenolphthalein and Fluorescein; Natural dyes –Alizarin and Indigotin; Edible Dyes with examples.

**SECTION B- PHYSICS**

**Unit I:**

**Units and Measurement; Length, Mass and Time measurements, Plotting of curves. 8 Marks**

 Motion: Displacement speed, Velocity, Acceleration. (Only definition).

 Laws of Motion: Concepts of forces, Newton’s Law of Motion, momentum, force, Impulse, Different types of forces (Frictional forces, Gravitational forces, viscous force)

 Law of Gravitation, Acceleration due to gravity, artificial and Geostationary satellites Work, energy and power; simple harmonic motion and time period, simple pendulum.

 Reflection, refraction, refraction through Prism, lenses. (Only Diagram)

**Unit II: House hold Equipment and Consumer Awareness** **8 Marks**

 Motorized equipments: Vacuum cleaners, Clothes washing machine, Dish washers, Food processors, Electric chimney. (Working & care)

 Heating appliances: Electric irons, Electric water heaters, Gas and electric cooking ranges, Gas meter, temperature control in household gadgets - various types of thermostats, Solar Energy and its applications. (Working & care)

 Cooling appliances: Refrigeration and air conditioning,

 Guarantee and warranty of all household equipments, Precautions while using equipments and servicing of equipment used.

**Unit III: Electricity 6 Marks**

** Conductor; insulator, semiconductor. (only definition)**

 Generation and efficient transmission of electricity.

 Concept - Battery charger, Invertor, UPS, Voltage stabilizer.

 Lighting fixtures in the home - Incandesent lamp, Fluorescent tube, CFL, LED, Halogen lamp.

**Unit IV: Sound and Light 6 Marks**

 Knowledge of sound, echo and their uses.

 Recording and reproduction of Sound - various methods.

**PRACTICAL**

**Course Title:** **PHYSICAL SCIENCE**

**CODE: HSC–CC-P2-502**

**MARKS: (24+6)**

**PRACTICAL**

**PART A - CHEMISTRY**

1. Volumetric Analysis

a. Acid base titration (Estimation of free alkali present in the given soap solution)

b. Precipitation Titration(Estimate amount of salinity in a given solution using silver nitrate)

c. Complexo metric titration (Determination of hardness of water)

2. Qualitative tests for carbohydrates and preparation of derivative (Osazone) Monosaccharides, disaccharides and polysaccharides

3. Separation of mixture of amino acids using paper chromatography and determination of Rf values

4. Preparation of methyl orange dye.

**PART B- PHYSICS**

1. To study the sensitivity of different measuring instruments and determine the thickness

of a glass plate using (i). Vernier Calipers and (ii). Screw Gauge

2. To study household electrical wiring and fix a bedside switch in the circuit.

3. To repair and test an electric iron

4. To repair the given chord and fuse and test them

5. Refractive index of a liquid by traveling microscope.

**RECOMMENDED READING**

 Morrison, R. T. and Boyd, R. N., Organic Chemistry, (2001), 7th edition, Prentice Hall.

 Graham Solomon, T.W. Organic chemistry 10th Ed. (2009) John Wiley and sons,Inc.

 Voet, D and Voet,J, Principles of Biochemistry,4th edition(2011) by John wiley and sons.

 Nelson, D.L. and Cox, M.M., Lehninger's principles of Biochemistry, 6th edition,(2012) W.H. Freeman.

 P.C. Jain, Monika Jain, Engineering Chemistry, Dhanpat Rai Publications (1979)

 Berg, J. M., Tymoczko, J.L. and Stryer, L.(2012). Biochemistry 7th Ed., W. H. Freeman

 Household Physics (2012), Claude H. Brechner, Hardpress.

 Applied Photography Optics, 3rd Edition, Sidney E. Ray, Focal Press 2002.

 Modern Physics, Murugeshan, S. Chand and Co., 2002.

 Engineering Physics: Fundamentals and modern applications, P. Khare and A. Swarup, Jones and Barlett Publishers, 2010.

Principles of Instrumental Analysis, 6th  edition (2006), D.A. Skooget. al., Saunders College Publishing.

 Murugeshan, Modern Physics, S. Chand and Co., 2002.

 Bhatia, K.B., Elements of Electrical Gadgets, Arya Book Depot, 1993.

 Principles of Instrumental Analysis, 6th  edition (2006), D.A. Skooget. al., Saunders College Publishing.

 Practical Organic Chemistry by Vogel A. I., Orient Longmans Limited.

 Ahluwalia, V. K., Dhingra, S., Gulati, A., College Practical Chemistry, University Press (India) Pvt. Ltd. (2005)

 B.Sc. Practical Chemistry by P. L. Soni and S. C. Jain, Sultan Chand and Sons (1978).

 College Practical Physics by Khanna and Gulati, S. Chand and Co.,

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**DISCIPLINE SPECIFIC ELECTIVE (DSE)**

**Course Title: FOOD SCIENCE**

**CODE: HSC– DS-T4-501**

**THEORY: (56+14)**

**Unit I: Introduction to food science 6 Marks**

 Definition, importance and applications

 Basic terminology used in food science

**Unit II: Basic food chemistry 12 Marks**

 **S**ources, chemistry and functional properties of Carbohydrates, Lipids and Proteins.

 Colloidal chemistry: Definition, classification, properties and applications of sols, gels, foams and emulsions.

**Unit III: Basic food microbiology 10 Marks**

 Introduction to yeast, mold and bacteria - Characteristics and their role in preservation and spoilage of food.

 Hygiene and sanitation practices in food processing and waste disposal.

**Unit IV: Preservation techniques, principles and their applications 8 Marks**

 High temperature, low temperature, removal of moisture, irradiation and additives.

 Food packaging and labeling: FSSAI, Codex

**Unit V: Sensory science 8 Marks**

 Physiological basis of sensory evaluation and sensory attributes of food.

 Sensory evaluation: Assessment, subjective and objective.

**Unit VI: Food Laws and Quality Assurance 12 Marks**

 National and International food laws – FSSAI, BIS, AGMARK, Codex and ISO: 22000, ISO: 9000, ISO: 14000.

 Quality Assurance procedures - GMP, GHP, HACCP

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**PRACTICAL**

**Course Title: Course Title: FOOD SCIENCE (P)**

**CODE: HSC– DS-P2-501**

**MARKS: (24+6)**

**PRACTICAL**

1**.** i. Applications and factors affecting formation of Sols, gels, foams and emulsions

ii. Study of microscopic structure of different food starches and their gelatinization properties

2. i. Slide preparation and identification of bacteria yeast and mold

ii. Assessment of hygienic practices of food handlers

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**Course Title: THERAPEUTIC NUTRITION**

**CODE: HSC– DS-T4-502**

**THEORY: (56+14)**

**Unit I: Principles of nutrition care 6 Marks**

 Nutrition Care Process

 Therapeutic adaptations of the normal diet

 Progressive diets – clear fluid, full fluid, soft and regular

**Unit II: Etiology, clinical features and nutritional management of Infections and Fevers.**

**14 Marks**

 Typhoid

 Tuberculosis

 HIV

**Unit III: Etiology, clinical features and nutritional management of the following 18 Marks**

 GI Tract Disorders:

o Diarrhoea

o Constipation

o Lactose intolerance

o Celiac disease.

 Liver: Infective Hepatitis

**Unit IV: Etiology, clinical features and nutritional management of 8 Marks**

 Weight Imbalances-Overweight and obesity; Underweight

 Eating disorder- anorexia nervosa and bulimia

**Unit V: Etiology, clinical features, basic diagnosis and nutritional management of the**

**Following 10 Marks**

 Type 1 and Type 2 Diabetes Mellitus

 Metabolic Syndrome

 Hypertension and Coronary Heart Disease

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**PRACTICAL**

**Course Title: THERAPEUTIC NUTRITION**

**CODE: HSC– DS-P2-502**

**MARKS: (24+6)**

**PRACTICAL**

Planning, preparation and service of diets for the following: Therapeutic Diets – Normal, Soft, Clear and full fluid

i. Fevers: acute and chronic

ii. Obesity

iii. Type 2 Diabetes

iv. Hypertension and CHD

v. Survey therapeutic foods in market

**RECOMMENDED READINGS**

 Khanna K, Gupta S, Seth R, Passi SJ, Mahna R, Puri S (2013). *Textbook of Nutrition and Dietetics.* Phoenix Publishing House Pvt. Ltd.

 Mahan L K and Escott Stump S (2013). *Krause’s Food & Nutrition Therapy*, 13th ed. Saunders-Elsevier.

 Stacy Nix (2009). *William’s Basic Nutrition and Diet Therapy*, 13th Edition. Elsevier Mosby.

 ICMR (1999). *Nutritive Value of Indian Foods*. National Institute of Nutrition, Indian Council of Medical Research, Hyderabad.

 Seth V and Singh K (2007). *Diet Planning through the Life Cycle Part II: Diet Therapy. A Practical Manual*, 4th edition. Elite Publishing House Pvt. Ltd.

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**SEMESTER VI**

**CORE COURSES**

**Course Title: RESEARCH METHODOLOGY IN HOME SCIENCE**

**CODE: HSC– CC-T4-601**

**THEORY: (56+14)**

**Unit I: Research- Meaning, purpose and approaches 20 Marks**

 Exploration, Description, Explanation

 Scientific method and research

 Research Designs –Experimental and Observational

 Quantitative and Qualitative approaches

***Conceptualization and Measurement***

 Variables, concepts and measurement

 Scales of measurement

 Units of analysis

**Unit II: Sampling & Tools 18 Marks**

 Role of sampling in research

 Types of sampling

 Methods of sampling

***Research Tools and Techniques***

 Validity and reliability

 Interviewing and observational methods

**Unit III: The Research Process 18 Marks**

 Defining the problem, research questions, objectives, hypotheses

 Review of related literature and originality in writing

 Planning the research

 Subjects context and ethics

 Methodology and tools

 Citation formats: in medical sciences, social sciences

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**PRACTICAL**

**Course Title: RESEARCH METHODOLOGY IN HOME SCIENCE**

**CODE: HSC– CC-P2-601**

**MARKS: (24+6)**

**PRACTICAL**

1. Exercise in sampling, random number table.

2. Exercise in designing tools and their analysis: interview, questionnaire.

3. Data collection process: conducting interviews, FGDs, case studies

**RECOMMENDED READINGS**

 Kumar, R. (2005) Research Methodology: A Step by Step Guide for Beginners. Sage Publications, New Delhi.

 Kerlinger F. N. and Lee, H.B. (2000) Foundations of Behavioural Research 4th Ed. Harcourt College Publishers

 Kothari, C. R. (2008) Research Methodology: Methods and Techniques 2nd Ed. New Age International Pvt Ltd, New Delhi.

 Black, J.A. & Champion, D. J. (1976) Methods and Issues in Social Research. New York: John Wiley and Sons.

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**Course Title: SOCIO ECONOMIC ENVIRONMENT (T)**

**CODE: HSC– CC-T4-602**

**THEORY: (56+14)**

**Part l: Sociological Concerns and Orientation 12 Marks**

**Unit l Sociological Orientation**

 Society, Culture and Institutions

 Family, Kinship and Relationships

 Social Groups and multiplicity

 Cultural diversity in contemporary life.

**Unit II Emergence of New Ideological Orientations 14 Marks**

Social mobility and social change

 Emergent Cultural Stereotypes

 Ethnographic approaches to the study of groups.

 Appreciating cultural plurality, Interconnection between the spheres

 Sociological Studies of Children, Youth and Women the aged: Empirical Problem & Frameworks.

**Part II: Economic Theory and Environment**

**Unit III: Introduction -Economic system, Consumption and production and distribution**

**14 Marks**

****  Definition, scope of Economics, Central problems of an economy

 Wants - Classification and Characteristics.

 Utility - Law of Diminishing Marginal Utility, Law of Equi-Marginal Utility Demand - Law of Demand, Elasticity of Demand.

 Engel’s Law of Consumption, consumer’s surplus

 Supply - Law of Supply, Elasticity of Supply, equilibrium of Demand and Supply.

Factors of Production- land, labour and capital, National Income estimates

 Types of Markets

 Money – classification and functions, value of money - quantity theory, Inflation and deflation

 functions of Banks

**Unit IV:Indian Economic Environment 16 Marks**

 Structure of Indian Economy : Changing structure of India Economy in the planning period.

 Constraints on growth: issues of population, income distribution, poverty,unemployment, inequality and migration, food security.   
 Role, importance and organization of Indian Agriculture.

 Role, importance and problems of Indian industries,

 Resent developmental programmes of the Government of India:Jana Dhana Yojna, Sarva Siksha Yojana.

 Issues related to health, education, environmental problems and gender.

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**PRACTICAL**

**Course Title: SOCIO ECONOMIC ENVIRONMENT**

**CODE: HSC– CC-P2-602**

**MARKS: (24+6)**

**Part 1 Practical (project)**

 Changing family trends.   
 Individuals facing Conflicts and consensus in society.

 Changing status and roles in varied spaces in family, work the elderly and its implication on the individual and society across cultures.

 Experiences of exclusion on the individual: caste, minority, disability, violence, immigration

 Religion and Culture

 Case studies, narratives, films, fieldtrips to different regions, communities like tribal, rural, urban

**Part II Practical**

 Field Visit (to do the comparative economic studies)

 Case Studies related to current economic issues (Developmental and Environmental)

 Data interpretation and analysis (to see the trends of growth and development of certain sectors or vice versa.)

**RECOMMENDED READINGS**

 Abhraham, M. F. (2006). Contemporary Sociology: An introduction to concepts and theories: New York: Oxford University Press.

 Beattie, J. (1964). Other cultures. Cohen and West.

 Das, V. (Ed.) (2003) The Oxford companion to sociology and social anthropology: volume 1 and 2.New Delhi: Oxford University Press.

 Johnson, M.H. (2001). Sociology: A systematic introduction. New Delhi: Allied Publishers Limited.

 Rawat, H.K. (2007). Sociolgy: Basic concepts. New Delhi: Rawat Publications.

 Srinivas, M.N. (Ed.) (1996). Caste: Its twentieth century avatar. New Delhi: Viking Penguin.

 Ahuja H.L., 2010, Modern Micro Economics. Sultan Chand & sons

 Dhingra IC and Garg VK, 2010, Introductory Economic Theory. Sultan Chand & Sons

 Mishra & Puri, Recent edition 2014, Indian Economy, Himalaya Publishing House.

 Mithani D.M., 2010 New Edition, Macro-Economics. Himalaya Publishing House

 Sundaram K.P.M., 2010, Introduction to Economics. Ratan Prakashan

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**DISCIPLINE SPECIFIC ELECTIVE (DSE)**

**Course Title: CHILDHOOD DISABILITY AND SOCIAL ACTION**

**CODE: HSC– DS-T4-601**

**THEORY: (56+14)**

**Unit I: Understanding Disability and Inclusion 18 Marks**

 Defining and understanding disability

 Rights of persons with disability and UNCRPD

 Perspective on disability: Individual and social

 Attitudes towards disability- family, school, society and media

**Unit II: Types of Disability 20 Marks**

 Identification, assessment and etiology with reference to:

I. Physical disabilities

II. Intellectual disability

III. Sensory disabilities- Visual and auditory

IV. Learning disability

V. Autism

**Unit III: Disability and society 18 Marks**

 Overview of practices and provisioning related to addressing disability in India

 Prevention, therapy, education and management

 Families of children with disabilities

 Policy and laws

**PRACTICAL**

**Course Title: CHILDHOOD DISABILITY AND SOCIAL ACTION**

**CODE: HSC– DS-P2-601**

**MARKS: (24+6)**

**PRACTICAL**

1. Visits- Government and Private Institutions and Organisations (CGC, schools, NGO’s, Hospitals)

2. Observe the context

3. Case profile of child with disability

4. Program planning

5. Planning developmentally appropriate material for children with disability

6. Media Exploring sources of information about children and their families using print and audio visual media.

7. Select Psychometric tests (Raven’s Progressive Matrices, Test for Learning disability)

**RECOMMENDED READINGS**

 Chopra,G., (2012). *Early Detection of Disabilities and persons with disabilities in the community.* New Delhi: Engage publications

 Chopra,G., (2012). *Stimulating Development of Young Children with Disabilities at Anganwadi and at Home: A Practical Guide.* New Delhi: Engage publications.

 Sharma, N. (Ed)(2010). The Socail Ecology of Disability-Technical Series -3Lady Irwin College. Delhi:Academic Excellence

 Mangal, S. K. (2007).Exceptional children: An introduction to special education. New Delhi: Prentice Hall of India

 Jangira, N.K.(1997) “Special Educational Needs of Children and Young Adults: An Unfinished Agenda,” *Education and Children with Special Needs: From Segregation toInclusion,*Ed. Seamus Hegarty, Mithu Alur, Thousand Oaks: Sage Publications Inc.

 Karna, G. N. (1999). *United Nations and rights of disabled persons: A study in Indian perspective*. New Delhi: A.P.H. Publishing Corporation.

 Mani, R. (1988). *Physically handicapped in India*. Delhi: Ashish Publishing House.

 Mastropieri, M. A., & Scruggs, T. E. (2004). *The inclusive classroom: Strategies for effective instruction*. NY: Pearson.

**Course Title: INDIAN TEXTILE HERITAGE**

**CODE: HSC– DS-T4-602**

**THEORY: (56+14)**

**Unit 1: Study of Textile Crafts of India: with reference to history, production centers,**

**techniques, designs, colours and products 30 Marks**

 Woven Textiles-Benaras Brocades , Jamdanis and Baluchars of Bengal, Kani Shawls of Kashmir, Assamese textiles

 Embroidered Textiles-Kanthas of Bengal, Kasuti of Karnataka, Phulkari of Punjab, Chikankari of Uttar Pradesh, Kashida of Kashmir, Gujarat embroideries

 Painted and Printed textiles –Kalamkaris of Andhra Pradesh, Dabu printing of Rajasthan, Ajarakh prints of Gujarat

 Dyed textiles –Bandhnis of Rajasthan and Gujarat, Ikats- Patola of Gujarat, **Bandhas** of Orissa, Telia Rumal

**Unit 2: Conservation of Traditional Textiles 10 Marks**

 Factors influencing degradation of textiles

 Care and storage techniques

**Unit 3: Status of Traditional Textiles in Modern India 16 Marks**

 Evolution and socio-economic significance of Khadi, Handloom and Handicraft sector

 Sustenance of traditional textile crafts

 Interventions by organizations

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**PRACTICAL**

**Course Title: INDIAN TEXTILE HERITAGE**

**CODE: HSC– DS-P2-602**

**Marks: (24+6)**

**PRACTICAL**

1. Traditional Embroideries

2. Tie and dye

3. Batik

4. Block printing

5. Portfolio and product development

6. Visit to craft/ Handloom center

**Recommended Readings:**

1. Agarwal, O.P., 1977, Care and Presentation of Museum projects – II, NRL

2. Chattopadhaya, K.D., 1995, Handicrafts of India, Wiley Eastern Limited, N Delhi

**3.** Das, Shukla, 1992, Fabric Art- Heritage of India, Abhinav Publications, N Delhi

4. Chetia, S. 2006. The Assamese handloom and textile tradition, Digboi Mahila Mahavidyalaya, Digboi

5. Baruah, Pallavi. 2008. The art of Tie and Dye and batik, kaustabh prakashan, Dibrugarh

6.Kakoti ,S. 2013.A text book of Clothing& Textiles, Om books publishers & distributors, Guwahati

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