

DISCIPLINE SPECIFIC ELECTIVES (DSEs)

Semester-VI

OPTION-I

HSC620D1A: (F. Sc. N/D.CLN) – FOOD SCIENCE

(CREDITS: THEORY-4, PRACTICAL-2)

THEORY (4 CREDITS)

Unit I: Introduction to food science

- Definition, importance and applications
- Basic terminology used in food science

Basic food chemistry

- Sources, chemistry and functional properties of Carbohydrates, Lipids and Proteins.
- Colloidal chemistry: Definition, classification, properties and applications of sols, gels, foams and emulsions.

Unit II: Basic food microbiology

- 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 III: Preservation techniques, principles and their applications

- High temperature, low temperature, removal of moisture, irradiation and additives.
- Food packaging and labelling: FSSAI, Codex

Unit IV: Sensory science

- Physiological basis of sensory evaluation and sensory attributes of food.
- Sensory evaluation: Assessment, subjective and objective.
- **Food Laws and Quality Assurance**
- National and International food laws – FSSAI, BIS, AGMARK, Codex and ISO: 22000, ISO: 9000, ISO: 14000.

PRACTICAL (2 CREDITS)

1. a) Applications and factors affecting formation of Sols, gels, foams and emulsions
b) Study of microscopic structure of different food starches and their gelatinization properties
2. a) Slide preparation and identification of bacteria yeast and mold
b) Assessment of hygienic practices of food handler
3. a) Preservation of food using different methods (Blanching, Dehydration, Freezing)
b) Basic principle involved in food preservation using additives
4. a) Sensory evaluation methods and their applications.
b) Food analysis: Moisture, pH, acidity, Total soluble solids by refractometer.
5. Evaluation of Food labels

RECOMMENDED READINGS

- Frazier W. C. and Westhoff D. C. (1988). Food Microbiology, 4th Edition.
- Manay S. and Shadaksharaswamy M (2002). Foods – Facts and Principles. Wiley Eastern Ltd.
- Potter H (1995). Food Science, 5th Edition. CBS Publishers & Distributors.
- Srilakshmi (2007). Food Science, 4th Edition. New Age International 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.
- Sethi Mohini and Rao E (2011). Food Science (Experiments and Applications), 2nd Edition. CBS Publishers & Distributors Pvt. Ltd.

DISCIPLINE SPECIFIC ELECTIVES (DSEs)

Semester-VI

OPTION-II

HSC620D1B: EXTENSION MANAGEMENT

(CREDITS: THEORY-4, PRACTICAL-2)

THEORY (4 CREDITS)

Unit 1 Extension:

- Extension: concept and philosophy
- Adult learning and Components of Extension
- Principles of Extension
- Relationship between Communication and Extension –Role of Extension in Development

Unit 2 Methods and Approaches of Extension

- Extension systems- types, advantages and disadvantages
- Diffusion of innovation and adoption
- Extension methods and approaches classification and characteristics

Unit 3 Development Programmes

- Development issues and goals- national and international perspectives
- National Development Programmes goals and strategies
- Behaviour Change Communication: Concept

Unit 4 Programme Planning and Management

- Concept, meaning and components of programme planning
- Principles as applied to extension programme planning
- Steps in programme planning
- Evaluation and importance in programme planning.

PRACTICAL (2 CREDITS)

- Analysis of development programmes
 1. INDRA AWAAS YOJNA (IAY)
 2. INTEGRATED CHILD DEVELOPMENT SERVICES SCHEME (ICDS)
 3. EMPLOYMENT ASSURANCE SCHEME (EAS)
 4. NATIONAL RURAL EMPLOYMENT PROGRAM (NREP)
- Evaluate strategies used by developmental agencies for implementation of above four developmental programmes
- Develop skills in planning and using individual and small group methods in extension
 1. Lecture method with power point presentation
 2. Demonstration (Method demonstration)

RECOMMENDED READINGS

- *Mikkelsen, Britha, (2002), Methods for Development Work and Research. New Delhi: Sage Publications*
- *Dale R, (2004) Evaluating Development Programmes and Projects. New Delhi : Sage Publications*
- *Kumar & Hansra, (1997) Extension Education for Human Resource Development. New Delhi: Concept Publishers.*

DISCIPLINE SPECIFIC ELECTIVES (DSEs)

Semester-VI

OPTION-III

HSC620D1C: BASICS OF DESIGN APPLICATION

(CREDITS: THEORY-4, PRACTICAL-2)

THEORY (4 CREDITS)

Unit 1 Design Fundamentals

- Definition of Art & Interior Design.
- Types of Design: Structural & Decorative.\
- Principles of Composition
 1. Rhythm and Balance
 2. Proportion, Emphasis and Unity.

Unit 2 Drawings and colours

- Composition of a Drawing – Harmony, Clarity, Adequacy.
- Colour & its Application.
 1. Dimensions of colour.
 2. Importance of colour & its role in creation of the design.
 3. Colour systems & Theories and Colour Harmonies.
 4. Principles of Design as applied to colour use.
 5. Colour Forecasting
- Design Drawing – Drawing as a language to explore & communicate Ideas.

Unit 3 Historical Perspectives & Contemporary Trends in Interior designs.

- History of Interior Design including periods like Mughal Architecture, Colonial style, Renaissance.
- 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.

Unit 4 Furniture and Furnishing

- Furniture – Types, Construction, Selection and purchase, Arrangement, Care and maintenance
- Furnishings – selection, care and maintenance of fabrics used for -
 1. Soft furnishings: curtains and draperies, upholstered furniture, cushions and pillows, etc.
 2. Floor coverings
- Accessories – Uses, Classification, Design, Selection & Arrangement.
- Lighting applications (Energy efficient lighting design – number and type of lamps and luminaries for efficiency in lighting).

PRACTICAL (2 CREDITS)

- Drawing – Introduction to drawing instruments & tools.
- Preparation of catalogue comprising pictures denoting application of Art & Elements of Design; Colour - Colour Wheel, Dimension & Harmonies of Colour.
- Floor plans with rendering (Theme based- Manual)
- Furniture & furnishing - plans of specific areas.
- Preparation of portfolio based on historical designs & market review of furniture and Furnishing materials (upholstery, curtains and draperies, bed & table linen)
 - Wall coverings & decorations (pictures, etc)
 - Floor coverings & decorations
 - Window & door treatments
 - Artefacts (sculptures, ceramics/terracotta, handicrafts, flower arrangements, etc.)
 - Fittings and fixtures
 - Wood and its substitute

RECOMMENDED READINGS

- Lawrence M, (1987), *Interior Decoration*, New Jersey: Chartwell Books.
- Riley & Bayen., (2003); *The Elements of Design*, Mitchell Beazley.

DISCIPLINE SPECIFIC ELECTIVES (DSEs)

Semester-VI

OPTION-IV

HSC620D1D: THEORIES OF HUMAN DEVELOPMENT

(CREDITS: THEORY-4, PRACTICAL-2)

THEORY (4 CREDITS)

Unit I: Introduction to theories in Human Development

- Key themes in the study of Human Development- Nature/nurture, active/passive, continuity/discontinuity, individual differences and similarities
- Understanding a theory
- Role of theories in understanding Human Development

Unit II: Perspectives on Human Development

- Evolutionary and Ethological /Biological: Darwin, Lorenz, Bowlby
- Ecological: Bronfenbrenner
- Behavioural: Pavlov, Skinner, Bandura

Unit III: Selected theories of human development

- Psychodynamic; psychosexual and psychosocial theories; Freud, Erikson
- Cognition: Piaget, Vygotsky
- Models and Theories of Intelligence: Guilford, Spearman and Gardener
- Humanistic: Maslow and Rogers

Unit IV: Theories in everyday life

- Eclectic theoretical orientation
- Ethno theories

PRACTICAL (2 CREDITS)

1. Biography of a theorist with a focus on his/her family life and childhood experiences.
2. Depict the 'eco-cultural' network for a child using the ecological model of Bronfenbrenner
3. Verification of selected theories using multiple methods
4. Observe/ analyse creation of media product for children or product such as toys/ clothes using theoretical base
5. Locate a tool/ scale of psychometric tests and administer it
6. Autobiography

RECOMMENDED READINGS:

- Berger, J.M. (2010). *Personality (8th ed.)*. Belmont, CA: Thomson/Wadsworth
- Allen, B.P. (2006). *Personality theories: Development, growth and diversity (5th ed.)*. Needham Heights, MA: Allyn and Bacon
- Santrock, J.W. (2007). *Lifespan Development (3rd ed.)*. New Delhi, Tata- McGraw Hill
- Rice, P. (1995). *Human Development: A Lifespan Approach*. New Jersey, Prentice-Hall Inc