

UNIVERSITY OF DELHI

CNC-II/093/1(40)/EC-1270/2024-25/162

Dated: 07.08.2024

NOTIFICATION

Sub: Amendment to Ordinance V

Following addition be made to Appendix-II-A to the Ordinance V (2-A) of the Ordinances of the University;

Add the following:

The following syllabi of amendment is notified herewith based on Undergraduate Curriculum Framework 2022 implemented from the Academic Session 2022-2023, for the information of all concerned:

1. Department of Home Science [ECR 5-20/ dated 27.07.2024]

- (i) GE Courses offered for Home Science – **Annexure-1**
- (ii) GE Papers offered for Food Technology- **Annexure-2**

2. Faculty of Applied Social Science & Humanities [ECR 5-21/ dated 27.07.2024]

- (i) Introduction of a Generic Elective (GE) course namely "Entrepreneurial Finance" in Semester-V of BBA (FIA) under FASSH. **As per Annexure-3**
- (ii) Splitting of GE course namely "Principle of Economics" in B.A. (Hons.) Business Economics Programme as under :

EXISTING	PROPOSED
GE 1 – Principles of Economics (Semester 1)	GE 1 – Principles of Microeconomics (Semester 1) As per Annexure -4. GE 13 – Principles of Macroeconomics (Semester 2) As per Annexure -5.


REGISTRAR

GENERIC ELECTIVE COURSES (GE) IN HOME SCIENCE

GE Code	Paper Name	Theory	Practical	Tutorial	Number of Credits
Home Science: Human Development and Childhood Studies					
GE HS 004	Adolescents and Youth in the Indian Family	3	1	-	4
GE HS 024	Human Development Across the Lifespan-I	3	1	-	4
GE HS 025	Human Development Across the Lifespan-II	3	1	-	4
GE HS 026	Human Development Across the Lifespan-III	3	1	-	4
GE HS 027	Theories of Human Development	3	1	-	4
GE HS 028	Adolescent and Youth Relationship and Wellbeing	3	1	-	4
GE HS 029	Childhood Disability	3	1	-	4
GE HS 030	Gender and Social Justice	3	1	-	4
GE HS 031	Child Rights and Human Rights in Indian Context	3	1	-	4
GE HS 032	Parenting Knowledge and Practices in Today's World	3	1	-	4
GE HS 033	Elder Care: Approaches and Methods for Compassionate Caregiving	3	1	-	4
GE HS 034	Social Entrepreneurship for Establishing Children's Programmes	3	1	-	4
Home Science: Food and Nutrition					
GE HS 008	Entrepreneurship for Small Catering Units	3	1	-	4

GE HS 035	Food Science	3	1	-	4
GE HS 036	Applied Human Physiology	3	-	1	4
GE HS 037	Concepts in Nutritional Biochemistry	3	1	-	4
GE HS 038	Diet Therapy	3	1	-	4
GE HS 039	Nutrition and Fitness	3	1	-	4
Home Science: Development Communication and Extension					
GE HS 011	Information and Communication Technologies for Development	3	1	-	4
GE HS 040	Communication and Extension: Concepts and Theories	3	-	1	4
GE HS 041	Communication Systems and Society	3	-	1	4
GE HS 042	Extension Programme Design for Sustainable Development	3	-	1	4
GE HS 043	Corporate Social Responsibility and NGO Management	3	-	1	4
GE HS 044	Social and Behaviour Change: Approaches and Strategies	3	-	1	4
GE HS 045	Advertising and Social Marketing	3	-	1	4
Home Science: Fabric and Apparel Science					
GE HS 015	Textiles for Interiors	3	1	-	4
GE HS 016	Fashion: Design and Development	3	1	-	4

GE HS 046	Essentials of Textiles	3	1	-	4
GE HS 047	Fundamentals of Fashion and Fabrics	3	-	1	4
GE HS 048	Pattern Making and Apparel Construction	2	2	-	4
GE HS 049	Appreciation of Textile Crafts	3	1	-	4
GE HS 050	Dyeing, Printing and Finishing	3	1	-	4
GE HS 051	Apparel Design and Selection	3	1	-	4
GE HS 052	Fashion Marketing and Merchandising	3	-	1	4
GE HS 053	Technical Textiles	3	1	-	4
Home Science: Resource Management & Design Application					
GE HS 021	Total Quality Management	3	1	-	4
GE HS 054	Essentials of Resource Management	3	-	1	4
GE HS 055	Consumer Studies and Personal Finance	3	-	1	4
GE HS 056	Essentials of Human Resource Management	3	-	1	4
GE HS 057	Sustainability and Space Design	3	-	1	4
GE HS 058	Resource Management for Sustainable Development	3	-	1	4
GE HS 059	Interior Design and Decoration	3	-	1	4
GE HS 060	Fundamentals of Ergonomic Design	3	-	1	4

GE HS 061	Marketing Management	3	-	1	4
GE HS 062	Product Development	3	-	1	4

DISTRIBUTION OF GENERIC ELECTIVE (GE) COURSES IN ODD AND EVEN SEMESTERS

	ODD SEMESTERS (I, III, V, VII)	EVEN SEMESTERS (II, IV, VI, VIII)
HOME SCIENCE: HUMAN DEVELOPMENT AND CHILDHOOD STUDIES		
LEVEL 100	Human Development Across the Lifespan- I *	Human Development Across the Lifespan- II *
	Challenges in Contemporary Childhood	Care and Wellbeing Across the Lifespan
LEVEL 200	Human Development Across the Lifespan- III *	Theories of Human Development *
		Adolescents and Youth in the Indian Family
LEVEL 300	Adolescent and Youth Relationship and Wellbeing	Childhood Disability
	Gender and Social Justice	Child Rights and Human Rights in Indian Context
	Parenting knowledge And Practices in Today's World	Elder care: Approaches and Methods for Compassionate Caregiving
	Social Entrepreneurship for Establishing Children's Programmes	Self-Development and Wellbeing
HOME SCIENCE: FOOD AND NUTRITION		
LEVEL 100	Fundamentals of Human Nutrition *	Food Science
LEVEL 200	Nutrition for the Family *	Applied Human Physiology *
		Entrepreneurship for Small Catering Units
LEVEL 300	Current Concerns in Public Health Nutrition	Concepts in Nutritional Biochemistry *

	Diet Therapy	Nutrition and Fitness
HOME SCIENCE: DEVELOPMENT COMMUNICATION AND EXTENSION		
LEVEL 100	Communication and Extension: Concepts and Theories *	Communication Systems and Society *
LEVEL 200	Extension Programme Design for Sustainable Development *	Gender and Media Studies *
LEVEL 300	Corporate Social Responsibility and NGO Management	Social and Behaviour Change: Approaches and Strategies
	Training and Capacity Building	Advertising and Social Marketing
	Participatory Communication and Development	Information and Communication Technologies for Development
HOME SCIENCE: FABRIC AND APPAREL SCIENCE		
LEVEL 100	Essentials of Textiles *	Fundamentals of Fashion and Fabrics *
	Fashion Accessories	Fashion: Design and Development
LEVEL 200	Appreciation of Textile Crafts *	Pattern Making and Apparel Construction *
	Apparel Design and Selection	Fabric Study
		Dyeing, Printing and Finishing
LEVEL 300	Sustainable Fashion	Fashion Marketing and Merchandising
	Textiles for Interiors	Technical Textiles
HOME SCIENCE: RESOURCE MANAGEMENT & DESIGN APPLICATION		
LEVEL 100	Essentials of Resource Management*	Consumer Studies and Personal Finance*
LEVEL 200	Essentials of Human Resource Management*	Sustainability and Space Design*
	Resource Management for Sustainable Development	Interior Design and Decoration

LEVEL 300	Fundamentals of Ergonomic Design	Marketing Management
	Corporate Social Responsibility	Product Development
	Visual Display Design	Total Quality Management
	Innovative Design Practices	

*** Mandatory courses for minor degree**

HOME SCIENCE: HUMAN DEVELOPMENT AND CHILDHOOD STUDIES

GENERAL ELECTIVE COURSE

GE HS 004: ADOLESCENTS AND YOUTH IN THE INDIAN FAMILY

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
Adolescents and Youth in the Indian Family	4	3	0	1	Class XII pass	NIL

Learning Objectives

1. To learn about various aspects, challenges and issues of adolescents and youth
2. Understand the roles and responsibilities of adolescents and youth
3. Develop skills required to address challenges of adolescents and youth

Course Outcomes

1. The student will be able to conceptualize adolescence and youth
2. The student will be able to familiarize themselves with various government initiatives for adolescents and youth in India
3. The student will be able to acquire skills to effectively manage everyday challenges

SYLLABUS

THEORY (Credits 3; Hours 45)

Unit I: Understanding adolescence (9 Hours)

This unit will help the students to understand the stage of adolescence and related concepts.

- Adolescence – Definitions and concepts
- Socio-cultural perspectives on adolescence – Indian and Global contexts
- Exploring relationships, roles and responsibilities

Unit II: Conceptualizing youth (12 Hours)

This unit will acquaint the students to develop an understanding of various aspects related to youth.

- Youth – Definitions and basic concepts
- Exploring relationships, roles and responsibilities
- Major issues concerning youth

Unit III: Adolescence and youth: Policies and programmes (12 Hours)

This unit will help students to familiarize themselves with the various government initiatives for adolescents and youth

- Policies and Programs for Adolescents
 - Rajiv Gandhi Scheme for Empowerment of Adolescent Girls (SABLA, 2011)
 - Rashtriya Kishor Swasthya Karyakram (RKSK), 2014
- Policies and Programs for Youth
 - National Youth Policy 2014
 - National Policy for Skill Development and Entrepreneurship, 2015

Unit IV: Empowering the self (12 Hours)

This unit will equip the students to develop strategies and skills so as to help individuals face everyday challenges

- Importance of self
- Empowering the self within family and society
- Putting empowerment to practice - Strategies and skills to resolve everyday situations

PRACTICAL (Credit 1; Hours 30)

- Mapping a day in the life of an adolescent/youth
- Getting to know oneself – journaling, diary entry
- Use of multimedia (movies, documentaries, ted talks etc.) to understand social construction of adolescence and youth in Indian and Global contexts
- Preparing and analyzing biographies of adolescents and youth
- Understanding adolescent and youth relationships – family, peer culture, romance, career, marriage, civic engagement
- Exploring self through workshops and theatre

Essential Readings

1. Adolescent Empowerment Technical Note UNICEF a. <https://www.unicef.org/adolescent-empowerment-technical-note> Retrieved on 25th April, 2022
2. Berk, L.E. (2007). Development through the LifeSpan. Delhi: Pearson Education. UGCF B. Sc (Hons.) Home Science 86 University of Delhi
3. Papelia, D.E and Martorell, G(2015). Experience Human Development, Mcgraw-Hill Education

4. Santrock, J.W. (2007). A topical approach to LifeSpan Development. New Mcgraw- Hill Education

5. Singh, A. (Ed.) (2015). Foundations of Human Development: A Life Span Approach. Delhi: Orient Black Swan

6. UGC Life Skills

<https://www.google.com/search?q=ugc+life+skills&oq=ugc+life+skills+&aqs=chrome..69i57j0i512j0i390l4.5186j0j7&client=ms-unknown&sourceid=chrome-mobile&ie=UTF-8>
Retrieved on 24th April, 2022

7. UNICEF Comprehensive Life Skills Framework

8. <https://www.unicef.org/india/media/2571/file/Comprehensive-lifeskills-framework.pdf>
Retrieved on 24th April, 2022

Suggested Readings

1. Choube, S.P. (2002). Psychology of Adolescents in India. New Delhi: Concept Publishing

2. Harris, M. and Butterworth, G. (2002). Developmental Psychology: A Student's Handbook. Psychology Press

3. Hurlock, E. B (1973). Adolescent psychology. McGraw-Hill Education

4. Issues and Challenges during Adolescence

https://www.cukashmir.ac.in/departmentsdocs_16/Issues%20and%20Challenges%20during%20Adolescence%20-%20Dr.%20Ismail%20Thamarasseri.pdf Retrieved on 25th April, 2022

a. https://www.researchgate.net/publication/349634651_Joint_Family_or_Nuclear_Family_The_Youth's_Perspective 26th April, 2022

5. Joint Family or Nuclear Family: The Youth's Perspective

6. Kumar, S. (2019). Youth in India: Aspirations, Attitudes, Anxieties, New Delhi: Routledge India

7. WHO Life Skills <https://nutspace.in/10-core-life-skills/> Retrieved on 25th April, 2022

GENERAL ELECTIVE COURSE

GE HS 024: HUMAN DEVELOPMENT ACROSS THE LIFESPAN I

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
Human Development Across the Lifespan 1	4	3	-	1	Class XII pass	NIL

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Learning Objectives

The Learning Objectives of this course are as follows:

1. To develop an understanding about the discipline of Human Development across the lifespan
2. To gain an insight of development in different domains from conception to early childhood

Learning Outcomes

The Learning Outcomes of this course are as follows:

1. Develop an understanding about the discipline of Human Development across the lifespan
2. Acquire knowledge of development in different domains from conception through infancy and early childhood.
3. Understand the salient features of human development by getting acquainted with various methods of studying children.

SYLLABUS

THEORY (Credits3; Hours 45)

Unit I: Introduction to Human Development across the lifespan (9 Hours)

The unit presents the student with an overview of the discipline of Human Development across the lifespan. The student will develop an understanding of basic ideas and terms that are central to the study of Human Development and lifespan

- Lifespan Development: Definitions
- Human Development: Definitions, nature and scope
- Domains and stages of development
- Principles of development
- Contexts of development

UNIT II: Prenatal development and childbirth (12 Hours)

The unit describes the process and stages of development from conception to birth and elaborates on the hereditary and environmental influences that play a role in prenatal development.

- Fertilization, Conception and stages of prenatal development
- Influences on prenatal development- Teratogens
- Prenatal care
 - Lamaze and Leboyer techniques
- Childbirth: Methods and birth complications

Unit III: Neonate and infant development (12 Hours)

The unit draws focus to the first two years of life and provides an understanding of the physical-motor, socio-emotional, cognitive and language development of infants.

- Sensory perceptual capacities of the neonate
- Infant care practices
- Physical motor development
- Socio-emotional development

- Cognitive and Language development

Unit IV: Development during the early years

(12 Hours)

The unit traces the progression in development that occurs from 2-6 years of life.

- Physical Motor Development
- Socio-Emotional Development
- Cognitive and Language Development

PRACTICAL (Credits 1; Hours 30)

- Narrative method: recalling and recording an event
- Exploring cultural practices and traditions during - Pregnancy - birth - Infant care
- Neonatal assessment (APGAR scale and Neonatal reflexes)
- Observation method:
 - observing infants and preschool children in everyday settings
 - methods of recording the observations
- Multi-media resources to study prenatal development, infancy, early childhood
- Preparation of activities and learning aids for parents using locally available materials

Essential Readings

1. Berk, L. (2013). Child development. 9th ed. Boston: Pearson.
2. DECE-1 Organising Child Care Services (IGNOU Study Material)
<https://www.egyankosh.ac.in/handle/123456789/32288>
3. Dixit, A. (2019). Baal Vikas (1st ed.). Doaba House.
4. Journey of the first 1000 days: Rashtriya Bal Swasthya Karyakram (2018) Ministry of Health and Family Welfare.
5. https://nhm.gov.in/images/pdf/programmes/RBSK/Resource_Documents/Journey_of_The_First_1000_Days.pdf
6. Patni, M. (2020). Baal Vikas (3rd ed.). Star Publications.
7. Santrock, J.W. (2011). Life-span development. New York: McGraw-Hill.
8. Singh, A. (Ed.) 2015. Foundations of Human Development. New Delhi: Tata McGraw
9. Snow, C.W. (1997). Infant Development. New Jersey, Prentice-Hall Inc.

Suggested Readings

1. Joshi, P. & Shukla, S. (2019). Child development and education in the twenty-first century. Singapore: Springer International
2. Khalakdina, M. (2008). Human development in the Indian context: A socio - cultural focus: 1. India: Sage.

GENERAL ELECTIVE COURSE

GE HS 025: HUMAN DEVELOPMENT ACROSS THE LIFE SPAN-II

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
Human Development Across the Life Span- II	4	3	0	1	Class XII pass	NIL

Learning Objectives

1. To develop a comprehensive understanding about different domains of development during middle childhood and adolescence.
2. To comprehend context specific cultural practices of development during middle childhood and adolescence.
3. To acquaint the students with various roles and relationships during middle childhood and adolescence.

Learning Outcomes

After completing this course, students will be able to:

1. Acquire a complete understanding of various developmental milestones as well as domains of development during middle childhood and adolescence.
2. Understand cultural practices of development during middle childhood and adolescence.
3. Develop an understanding of the role of family, peers and community during middle childhood and adolescence.

SYLLABUS

THEORY (Credits 3; Hours 45)

UNIT I: Middle Childhood Years (Hours)

(12)

This unit traces the progression of development across domains from 7-12 years of life. Subtopics:

- Physical and physiological changes during middle childhood years
- Cognitive and language development
- Moral development

UNIT II: Middle Childhood Years: The Social Context Hours)

(10

This unit focuses on the social context of development during the middle childhood years. The role of family, school, peer group, community and media is explored here.

Subtopics:

- Social and emotional development.
- Impact of various environmental settings (Family, School, community and media).
- Role of peer group.

UNIT III: Introduction to Adolescence Hours)

(12

This unit describes the transformation from childhood to adolescence with a focus on physical development and puberty and its impact on socio-emotional development.

- Puberty, sexual maturity, nutrition, health and wellbeing
- Perspectives on identity formation.
- Socio-Emotional development, interpersonal relationships
- Adolescence and Media

UNIT IV Adolescent cognitive, language and moral development

(11 Hours)

This unit will describe the stage of adolescence and with emphasis on cognition, language and moral development

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

PRACTICAL (Credits 1; Hours 30)

1. To study recent research articles on adolescents and write a report.
2. Methods of studying Children and Adolescents
 - Questionnaire
 - Sociometry
 - Case study
3. To conduct a survey to assess peer pressure/ impact of media on adolescents.
4. To write a narrative account on adolescent years to understand the development of self.
5. To develop different activities to facilitate cognition and creativity in adolescents.
6. Use of secondary sources to understand the depiction of children and adolescents in media
7. Psychometric tests for children and adolescents.

Essential Readings

- Bee, H., & Boyd, D. (2012). The Developing Child (13th ed.). Pearson
- Berk, L. E. (2007). Development through the lifespan. Delhi: Pearson Education. McGraw- Hill.
- Feldman, R.S (2021). Development Across the LifeSpan. Pearson: Hoboken, NJ
- Lyons , C. W (2023). From Birth to Late Adulthood: An Introduction to Lifespan Development. Cognella, Inc; 2nd edition. ISBN-13: 978-1793585103.
- Papalia, D. E & Martorell, G (2021). Experience Human Development. McGraw Hill, New York.
- Ranganathan, N. (Ed.). 2020. Understanding Childhood and Adolescence. New Delhi: Sage.
- Rice, F. P. (2000). Human Development: A Life-span Approach. New Jersey: Prentice Hall
- Rice, F. P. (1998). Human Development: A lifespan approach. New Jersey: Prentice Hall.
- Santrock, J. W. (2021). Lifespan Development, 17th Edition, McGraw Hill.
- Sharma, N. (1999). Understanding Adolescence. National Book Trust.
- Singh, A. (Ed). 2015. Foundations of Human Development: A life span approach. New Delhi: Orient Black Swan.

Suggested Readings

- Journal of Developmental Psychology
- Rutter, M. and Rutter, M. (1992). Developing Minds. Challenge and continuity across the lifespan. London: Penguin.

GENERAL ELECTIVE COURSE

GE HS 026: HUMAN DEVELOPMENT ACROSS THE LIFESPAN- III

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
Human Development Across the Lifespan III	4	3	-	1	Class XII pass	NIL

Learning objectives

1. To learn about the transition that takes place in the different domains of development during early, middle and late adulthood.
2. To understand the theoretical perspectives on early, middle and late adulthood.
3. To understand the influence of cultural contexts on development during adulthood.
4. To learn about different techniques, tools of data collection and psychometric measurement
5. To learn about understanding of significance of work, vocation, and leisure activities in adulthood.

Learning Outcomes

The students would be able to:

1. The students will develop an understanding of the changes that are occurring in different developmental domains during adulthood.
2. Students will be able to apply theoretical perspectives in understanding adulthood.
3. Students will be able to identify challenges related to care and caregiving in late adulthood.
4. Students will be able to explore socio-emotional development focusing on relationships, marriage, co- habitation, and parenting.
5. Students will be able to use and apply different psychometric techniques to assess developmental changes in adulthood.

SYLLABUS

THEORY (Credits 3; Hours 45)

Unit I: Introduction to adulthood (9 Hours)

This unit will explain the transition from adolescents to adulthood and changes in adulthood under different dimensions.

- Meaning and characteristics of adulthood
- Stages of Adulthood
- Developmental tasks in adulthood
- Transition from adolescent to adulthood
- Dimensions of adulthood

Unit II: Understanding early adulthood (12 Hours)

This unit will explain the stages of early adulthood and focus on physical and physiological changes, significance of vocation and socio-emotional changes specially in early adulthood.

- Physical and physiological changes
- Cognitive development
- Emotional development
- Socio-emotional development: Relationships, Marriage, co-habitation and Parenting
- Work, Vocation and leisure

Unit III: Development in middle adulthood (12 Hours)

This unit will explain the stages of middle adulthood and various challenges across different domain domains of development.

- Physical and physiological changes
- Socio-emotional development
- Family adjustment-Challenges and crises
- Inter-generation relationships in Indian context
- Adult sexuality
- Transition from adolescent to adulthood

Unit IV: Late adulthood/ aging

(12

Hours)

This unit will explain the stage of late adulthood, cultural context of parenting in intergeneration and the challenges and care across the different domains of development.

- Demography of late adulthood/ old age
- Physical and physiological changes
- Sensory and perceptual changes
- Cognitive changes
- Socio-emotional development: Parenting and Grandparenting; Coping with the challenges of aging
- Challenges and care
- Death and grief

PRACTICAL (Credit 1; Hours 30)

- Reviewing methods of data collection: Interview, Observation, Questionnaire, Case study
- To study physical and sexual changes in adulthood
- To study challenges and care of elderly by using questionnaire/ interview method.
- Case profile of an individual in early adulthood career/vocation.
- Depictions of transition from adolescent to adulthood stages in media: Audio-visual, Print and Theatre
- Familiarizing psychological tests to intelligence, personality and mental health and well-being (Any three).
- Study the new technologies/ aids available for elderly by using multimedia.
- Visit to an old age home
- Case profile of an individual in middle adulthood family adjustment.
- Planning two-days' workshop/ education programme for adults on health and well-being.

Essential Readings

- Berk, L. E. (1996). Child development. New Delhi: Prentice Hall.
- Harrigan, M., & Farmer, R. (1992). The myths and facts of aging. In R. L. Schneider & N. P. Knopf (Eds.), Gerontological social work: Knowledge, service settings, and special populations (pp. 29-67). Chicago, IL: Nelson Hall.
- Hurlock, E.B. (2007). Developmental psychology: A life – span approach. New Delhi:

Tata McGraw – Hill.

- Malcom, L. Johnson. (2005). The Cambridge Handbook of Age and Ageing, New York, Cambridge University Press.
- Mussen, B. Conger, J.J., Kagan, J. and Huston, A. C. (1990). Child development and personality. New York: Harper and Row.
- Papalia, D.E., Olds, S.W. and Feldman, R.D. (2006). Human development. 9th Ed. New Delhi: Tata McGraw- Hill.
- Santrock, J.W. (1999). Life Span Development. New York. The McGraw- Hill Companies
- Lyons, C. W (2023). From Birth to Late Adulthood: An Introduction to Lifespan Development. Cognella, Inc; 2nd edition. ISBN-13: 978-1793585103.
- Santrock, J. W (2021). Lifespan Development | 17th Edition. McGraw Hill; 17th edition McGraw Hill Education (India) Private Limited, Candor Tech-Space, 8th Floor, Tower No 5, Plot No 2, Block B, Sector 62, Noida, Uttar Pradesh - 201309; 18001035875.
- Santrock, J. W (2021). Essentials of Life-Span Development. McGraw Hill; 7th edition. ISBN: 978-1260726800.
- Kalpathy, S (2023). Old Age Health Challenges and Solutions. Kindle Edition
- Feldman, R.S (2021). Development Across the Life Span. Pearson: Hoboken, NJ
- Papalia, D. E & Martorell, G (2021). Experience Human Development. McGraw Hill, New York.

GENERAL ELECTIVE COURSE
GE HS 027: THEORIES OF HUMAN DEVELOPMENT

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
Theories of Human Development	4	3	-	1	Class XII pass	NIL

Learning Objectives

1. To enable an understanding of the significance of theoretical basis of Human Development.
2. To gain an in-depth understanding of selected theories in Human Development

Learning Outcomes

The Learning Outcomes of this course are as follows:

1. Students will gain an insight into the importance and role of theories in Human Development.
2. Students will develop an understanding of selected theories in Human Development.
3. Students will become aware of the concepts and perspectives related to human development.

SYLLABUS

THEORY
(Credit 3; Hours 45)

UNIT – I Introduction to theories in Human Development. (15 Hours)

The unit will introduce themes in the area of human development covering nature/nurture, heredity/environment, continuity/discontinuity, individual differences and similarities.

- 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 (15 Hours)

The unit will introduce various theoretical perspectives on Human Development. It will be covering evolutionary, ethological, ecological and behavioral theories.

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

UNIT III: Selected theories of human development.

(15 Hours)

The unit will introduce select theories in the area of human development.

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

PRACTICAL (Credit 1; Hours 30)

- Biography of a theorist with a focus on his/her family life and childhood experiences and theory
- Depict the 'eco-cultural' network for a child using the ecological model of Bronfenbrenner
- Observe/analyze/ creation of media product for children or product such as toys/ clothes using theoretical base
- Locate a tool/ scale of psychometric tests and administer it
- Autobiography

Essential Readings

- Newman, B. M., & Newman, P. R. (2022). Theories of Human Development (3rd ed.). Routledge.
- Rice, P. (1995). Human Development: A Lifespan Approach. New Jersey, Prentice-Hall Inc
- Santrock, J.W. (2007). Lifespan Development (3 ed.). New Delhi, Tata- McGraw Hill

Suggested Reading

- Allen, B.P. (2006). Personality theories: Development, growth and diversity (5 ed.). Needham Heights, MA: Allyn and Bacon
- Berger, J.M. (2010). Personality (8" ed.). Belmont, CA: Thomson/Wadsworth

GENERAL ELECTIVE COURSE GE HS 028: ADOLESCENT AND YOUTH RELATIONSHIPS AND WELL-BEING

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
Adolescent and Youth Relationship and Well-Being	4	3	NIL	1	Class XII pass	NIL

Learning Objectives

1. To study adolescent and youth relationships across cultural contexts.
2. To understand adolescent and youth relationships in relation to society, family and peers
3. To understand well-being of adolescents and youth and factors affecting well-being.

Learning Outcomes

1. The student will acquire knowledge about intra-personal and inter-personal adolescent and youth relationships.
2. The student will develop an understanding of the concept and dimensions of well-being of adolescents and youth in the contemporary social world.
3. The student will engage in the use of various methods and tools to understand self in diverse contexts.

SYLLABUS

THEORY (Credits 3; Hours 45)

Unit 1: Introduction to Adolescent and Youth Development (15 Hours)

This unit will provide an overview of the factors that affect the identity, self and well-being during adolescence and adulthood.

- Overview: Adolescence and early adulthood as a developmental stage
- Family dynamics and well-being
- Identity and Self: Relationships in shaping identity and well-being

Unit 2: Romantic Relationships and Sexual Health (15 Hours)

This unit will provide knowledge on romantic relationships, sexual health education, and prevention of STIs and unplanned pregnancies, while also emphasizing consent, communication, and healthy boundaries.

- Development of romantic relationships and sexual identity
- Sexual health education and prevention of STIs and unplanned pregnancies

- Consent, communication, and healthy boundaries in romantic relationships

Unit 3: Managing Health and well-being

(15 Hours)

This unit will provide an understanding of well-being, stress management, coping strategies, and access to mental health services and support groups.

- Defining well-being, Dimensions and indicators of well-being, Health-compromising behaviors
- Stress Management: Nature and consequences of stress
- Coping mechanisms and resilience-building strategies
- Access to mental health services and social support groups

PRACTICAL (Credit 1; Hours 30)

1. Understanding self
 - SWOT analysis
 - Narratives/ autobiography/ diagrammatic representation of self
2. Understanding Self and Competence
 - Pilot research on understanding aspects of self: well-being/ identity/body image
 - Observations
 - Checklist
 - Movies/ documentaries/ videos
 - Survey of community networks and support groups
3. Promoting life skills and well-being: workshops/ lectures/ seminar
 - Socio-emotional well-being
 - Counseling/Yoga/Meditation
 - Life skills
 - Mindfulness

Essential Readings

- Khosla, M. (2022). Understanding the Psychology of Health and Well-being. Delhi: Sage Texts. ISBN 9789354794391.
- Arora, M. K. and Sran, S.K. (2017) Psychology of health and well-being , New Delhi: Book Age Publications. ISBN: 978-93-83281-71-8.
- Taylor, S. E. (2012). Health Psychology (7th edition). New York: Tata McGraw Hill Publications.
- Manthei, R. (1997). Counselling: The skills of finding solutions to problems. London: Routledge.
- Rice, F. P. (2007). Adolescent: Development, Relationships and Culture. inc: US, Allyn & Bacon.
- Santrock, J. W. (2010). Life Span Development: A Topical Approach, New Delhi: Tata McGraw Hill.
- Sharma, N. (2009). Understanding Adolescence, New Delhi: National Book Trust.

Suggested Readings

- Damour, L. (2017). Untangled. Atlantic Books.
- Jha, M. (Ed.) (2021). Being an Indian Teenager. Literaturelight Publishing.
- Morgan, N. (2018). Positively Teenage. Hachette Children's Group.

- Ranganathan, N. & Wadhwa, T. (2017). Guidance and Counselling for Children and Adolescents in Schools (India). SAGE Publications India Pvt Ltd.
- Saraswathi, T. S. (2003). Cross-Cultural Perspectives in Human Development: Theory, Research and Applications. SAGE Publications Pvt. Ltd
- Saraswathi, T. S. (2003). The World's Youth: Adolescence in Eight Regions of the Globe. Cambridge University Press
- Shah, G. J. & Thomas, S. (2021). Adolescence in India. Routledge India.

GENERAL ELECTIVE COURSE
GE HS 029: CHILDHOOD DISABILITY

CREDIT DISTRIBUTION, ELIGIBILITY AND PREREQUISITES OF THE COURSE

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical / Practice		
Childhood Disability	4	3	-	1	Class XII pass	NIL

Learning Objectives

The Learning Objectives of this course are as follows:

1. To define and identify various childhood disabilities, including physical, cognitive, and developmental disabilities, along with their causes and impact on children's development.
2. To explore different social models of disability and understand how these models shape societal perceptions and responses to childhood disabilities.
3. To identify strategies for promoting inclusive environments in various settings, such as schools, healthcare facilities, communities, and recreational spaces, to ensure the participation and well-being of children with disabilities.

Learning Outcomes

The Learning Outcomes of this course are as follows:

1. Demonstrate an understanding of various childhood disabilities, their causes, and their impact on children's development, as well as the social models of disability.
2. Learners will critically analyze the social determinants of health affecting children with disabilities and evaluate historical and contemporary perspectives on childhood disability, demonstrating the ability to apply theoretical concepts to real-world contexts.
3. Upon completion of the course, participants will be able to implement inclusive practices in various settings, fostering environments that support the participation, autonomy, and well-being of children with disabilities.

SYLLABUS

THEORY **(Credits 3; Hours 45)**

Unit 1: Understanding Disability (10 Hours)

This unit introduces the student to key concepts of disability and helps them know the laws and conventions related to addressing disability

- Concept and Models of Disability and its social construction
- Relationship of disabilities with development milestones
- Demographic Profile
- Overview of Indian and international laws and conventions related to addressing disability

Unit 2 Common Childhood Disabilities (25 Hours)

This unit will deal with the six common childhood disabilities starting from the identification of early signs, causes and classification of the disability.

- Locomotor disability
- Visual disability
- Auditory and speech disability
- Intellectual disability
- Autism
- Learning Disability

Unit 3 Inclusion & Inclusive Practices (10 Hours)

This unit will establish an understanding of inclusion amongst students and will enable them to comprehend inclusive practices leading to Contextualization of inclusion for diverse learners

- Concept of Inclusion and philosophy of inclusion with special reference to children with disabilities
- Process of inclusion: Concerns and barriers across disabilities and disability inclusive services
- Inclusive practices in ECE classrooms and adaptations for diverse learners
- Families of children with disabilities

PRACTICAL **(Credit 1; Hours 30)**

The practicums will give students hand-on experience to understand disability amongst children and how inclusive practices are implemented in various institutions.

1. Visits- Government and Private Institutions and Organisations (CGC, schools, NGO's, Hospitals)
2. Planning developmentally appropriate material for children with disability
3. Exploring sources of information about children and their families using print and audio visual media.
4. Accessibility survey
5. Psychometric tests- Portage Guide and Ravens Progressive Matrices

Essential Readings

- Ghai, A. (2015). Rethinking Disability in India (1sted.). Routledge India. <https://doi.org/10.4324/9781315734064>
- Bathshaw, M. L. Nancy J. Roizen (Editor), Louis Pellegrino (2019). Children with Disabilities (8th Ed.). Paul H. Brookes Publishing Co., Baltimore, Maryland
- Mehrotra, N. (2020). Disability Studies in India: Interdisciplinary Perspectives. Springer Verlag, Singapore.
- 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.
- Heward, W. L. (2018). Exceptional children: An introduction to special education. Pearson Education
- Sharma, N. (Ed) (2010). The Social Ecology of Disability-Technical Series - Lady Irwin College. Delhi: Academic Excellence
- Mangal, S. K. (2007). Exceptional children: An introduction to special education. New Delhi: Prentice Hall of India
- Bayat, M. (2016) Teaching Exceptional Children: Foundations and Best Practices in Inclusive Early Childhood Education Classrooms. Routledge.
- Werner, D. (1994) Disabled Village Children. Voluntary Health Association of India. New Delhi

Suggested Readings

- Asthana, N. (2023). Creating an inclusive school. New Delhi: PHI Learning Pvt. Ltd.
- Srilata, K. (2023). This Kind of Child: The 'Disability' Story. Westland Nonfiction.
- Kircher-Morris, E. (2022). Raising Twice-Exceptional Children: A Handbook for Parents of Neurodivergent Gifted Kids (1sted.). Routledge. <https://doi.org/10.4324/9781003237532>
- Karna, G. N. (1999). United Nations and rights of disabled persons: A study in Indian perspective. New Delhi: A.P.H. Publishing Corporation.

GENERAL ELECTIVE COURSE
GE HS 030: GENDER AND SOCIAL JUSTICE

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
Gender and Social Justice	4	3	0	1	Class XII pass	NIL

Learning Objectives

1. To learn about key concepts and terminology with reference to sex and gender.
2. To acquire knowledge about the social construction of gender
3. To understand issues of gender diversity, discrimination and equity
4. To examine the existing policies and laws for gender justice
5. To gain skills to interact with diverse social groups and advocate for gender equity.

Learning Outcomes

1. The students will learn about key concepts and contemporary terminology with reference to sex and gender.
2. The students will gain insights into the social and cultural determinants of gender.
3. The students will develop an understanding of the dimensions of gender discrimination, diversity and equity.
4. The students will acquire knowledge about relevant policies and legislation for gender justice.
5. The students will develop a nuanced perspective on gender issues through extensive interactions with diverse social groups

SYLLABUS

THEORY
(Credits 3; Hours 45)

Unit I: Understanding Gender

(15 Hours)

This unit introduces the student to concepts of sex, gender and sexual orientation to develop an understanding of the biological and cultural determinants of sex and gender.

- Sex, gender and sexual orientation
- Biological and cultural determinants
- Gender fluidity
- Demographic profile

Unit II: Gender and Society

(15 Hours)

The unit explores the social construction of gender and the role of social institutions in reinforcing gender roles, attitudes and stereotypes.

- Social Construction of Gender: Gender roles, stereotypes and identity
- Patriarchy and social institutions
- Social traditions and contemporary issues
- Media and popular culture
- Gender in the workplace and in public spaces

Unit III: Gender Justice

(15 Hours)

In this unit, gender and violence is studied in the context of cultural ideas about gender and power relations. The unit also includes a study of programmes for gender equity.

- Power and violence in gender relations
- Sexual harassment, Domestic violence and intimate partner violence
- Gender rights, Laws and Policies
- Programmes for gender equity

PRACTICAL (Credit 1; Hours 30)

1. Visits to organizations working in the areas of Gender to understand their objectives, programmes and experiences.
2. Workshops on relevant issues like Gender, domestic violence, gendering of public spaces
3. Understanding gender issues in diverse social groups through field visits and interactions
4. Media portrayals of gender
5. Use of audio-visual material, films and documentaries.

Essential Readings

- Agnes, F. (1999). Law and Gender Inequality: The politics of Women's Rights in India. Oxford University Press.
 - Bhasin, K. (1993). What is Patriarchy? New Delhi: Kali for Women, Raj Press.
 - Bhasin, K. (2000). Understanding Gender. New Delhi: Kali for Women, Raj Press.
 - Bhasin, K. (1986). Feminism and its relevance in South Asia. New Delhi: Kali for Women, R. S. Printers.
 - Bhasin, K. (2004). Exploring Masculinity. New Delhi: Women Unlimited, Raj Press.
 - Handbook on combating gender Stereotypes; Supreme Court of India (2023). https://main.sci.gov.in/pdf/LU/04092023_070741.pdf
 - Kishwar, M. (1999). Off the Beaten Track: Rethinking Gender Justice for Indian Women. New Delhi: Oxford University Press
 - Manjrekar, N. (2020). Gender and Education in India. Akar Books.
 - Menon, N. (2008). Sexualities: Issues in contemporary Indian feminism. New Delhi: Sage.
 - Mohanty, M. (2008). Class, caste and gender. New Delhi: Sage.
 - Saikia, N. (2008). Indian women: A socio-legal perspective. New Delhi: Serials publications.
- ADDITIONAL RESOURCES**
- Bradley, H. (1991). Men's Work, Women's Work. UK: Polity

GENERAL ELECTIVE COURSE
GE HS 031: CHILD RIGHTS AND HUMAN RIGHTS IN INDIAN CONTEXT

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITE OF THE COURSE

Course title & code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Theory	Tutorial	Practical/ Practice		
Child and Human Rights in Indian Context	4	3	0	1	Class XII pass	NIL

Learning Objectives

1. To understand the meaning of child rights and rights based approach to providing services and programmes for children.
2. To identify groups of children who are in need of care and protection for situational analysis of children in India.
3. To acquire knowledge of constitutional and legal provisions in India for care and protection of the children.

Learning Outcomes

1. Students will acquire a conceptual understanding of child rights.
2. To understand that child rights are human rights too, yet different.
3. The students will acquire knowledge of vulnerable groups of children in India and status of children in India.
4. Students will learn about constitutional and legal provisions in India for care and protection of the children.

SYLLABUS

THEORY
(Credits 3; Hours 45)

UNIT I: Understanding child rights (10 Hours)

This unit introduces the concept of child rights, highlights the factors that lead to exclusion and introduces the international declaration on Child Rights.

- Definition, concepts and models for understanding child rights.
- Factors of exclusion of children in India
- UNCRC. And understand child rights are human rights too, yet these are different.

UNIT II: Children in need of care and protection in India (15 Hours)

There are specific groups of children in India who are deprived and neglected. These children need care and protection services. A description of these groups and what needs to be done for them is covered in this unit, The groups highlighted are as under;

- Street and working children
- Children in conflict with law
- Child victims of physical and sexual abuse.
- Children who are trafficked.
- Orphan and destitute children.

UNIT III: Other Vulnerable groups of children (10 Hours)

Special geographic positioning, abilities, gender and special circumstances like natural calamities, geopolitical conditions and conflict increase vulnerabilities in children. This unit highlights these.

- Children living in tribal areas.
- Girl child
- Children with disabilities.
- Children of migrant and refugee families, in war zones and affected by natural disasters

UNIT IV: Framework for protecting and promoting child rights in India (10 Hours)

This unit lays out protective provisions and constitutional and legislative support for children in India. Policy framework for children will also be described.

- Constitutional provisions for children in India.
- National policies, programs-NEP, RTE act, National Plan of Action for children.
- Laws for children (CLPRA, POSCO, HAMA, GAWA, PC-NDT, JJ act 2016)

PRACTICAL (Credit 1; Hours 30)

- Visits to institutions working for vulnerable children.
- Exploring and analysis of child rights issues through audio-visual source sand workshops.
- Interaction with children in difficult circumstances.
- Preparing stories and materials for print and social media on child rights awareness.

Essential Readings

- Bajpai, A. (2006). Child rights in India: Law, policy and practice. New Delhi: Oxford University Press.
- Chopra, G. (2015). Child rights in India: Challenges and Social Action. New Delhi: Springer.
- Gathia, S.V. and Gathia, J.A. (2015) Children's Right and Well Being in India. Concept publishing company

- Kumari, V. (2010) Kumari, V. (2010) The Juvenile Justice system in India.. Oxford University Press.

Suggested Readings

- Bhargava, V. (2005). Adoption in India: Policies and experiences. New Delhi: Sage.
- Indian Journal of Social Work
- Virani, P. (2000). Bitter chocolate: Child Sexual abuse in India. New Delhi: Penguin
- Weiner, M., Burra, N., Bajpai, A. (2007). Born unfree: Child labour, Education, and the state in India. New Delhi: Oxford University Press.

Some links

- The gazette of India. The Child Labour (Prohibition and Regulation) Amendment Act, 2016. [http://uphome.gov.in/writereaddata/Portal/Images/The-Child-Labour\(Prohibition_and_Regulation\)_Amendment-Act,2015.pdf](http://uphome.gov.in/writereaddata/Portal/Images/The-Child-Labour(Prohibition_and_Regulation)_Amendment-Act,2015.pdf)
- The Hindu Adoptions and Maintenance Act, 1956. <http://egazette.nic.in/WriteReadData/1956/E-2176-1956-0073-99264.pdf>
- The Hindu Minority and Guardianship Act, 1956. <http://egazette.nic.in/WriteReadData/1956/E-2177-1956-0043-99277.pdf>
- The Juvenile Justice (Care and Protection of Children) Act, 2015 <http://cara.nic.in/PDF/JJ%20act%202015.pdf>
- The National Policy for Children. <https://childlineindia.org.in/pdf/The-National-Policy-for-Children-2013.pdf>
- The protection of children from sexual offences acts 2012. <https://wcd.nic.in/sites/default/files/childprotection31072012.pdf>.
- The Rights of Persons with Disabilities Act, 2016.

GENERAL ELECTIVE COURSE

GE HS 032: PARENTING KNOWLEDGE AND PRACTICES IN TODAY'S WORLD

CREDIT DISTRIBUTION, ELIGIBILITY AND PREREQUISITES OF THE COURSE

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
Parenting Knowledge and Practices in Today's World	4	3	-	1	Class XII pass	NIL

Learning Objectives

1. To introduce the student to traditional and contemporary parenting theories and practices

2. To understand parenting approaches in diverse socio-cultural contexts
3. To relate parenting and individual wellbeing within families, communities and cultures

Learning Outcomes

1. The student will demonstrate knowledge of contemporary parenting theories and practices in diverse socio cultural contexts
2. The student will be able to appreciate the connection between parenting and the development of the individual within familial, cultural and community contexts

SYLLABUS

THEORY **(Credits 3; Hours 45)**

Unit 1: Introduction to Contemporary Parenting (12 Hours)

This unit introduces students to theoretical frameworks, historical perspectives and cultural theories on parenting. It also discusses the contemporaneous trends and challenges in parenting.

- Parenting Theories and Approaches
- Historical and Cultural Perspectives
- Contemporary sources of parenting knowledge
- Trends and Challenges in contemporary Parenting: Parenting in Digital age, Parenting Ethics, FOMO and helicopter parenting etc

Unit 2: Parenting in Diverse Family Structures (12 Hours)

This unit elaborates upon parenting in diverse and emergent forms of familial structures in India.

- Single parenting; Blended families; LGBTQ+ parenting
- Non Familial Networks and support
- Parenting Diversity across Indian Families- Transnational families, Adoption
- Rights based parenting

Unit 3: Parenting Across Developmental Stages (10 Hours)

This unit focuses upon parenting and its challenges across the childhood and adolescent age spans.

- Infant and toddler care
- School-age children
- Adolescence and puberty
- Learning differences and special needs

Unit 4: Nurturing Healthy Relationships and Wellbeing (11 Hours)

This unit outlines parenting approaches to foster relationships and wellbeing at the levels of the individual, family and community.

- Parent-child relationships and sibling dynamics
- Recognizing signs of stress and anxiety in children
- Rethinking discipline
- Building Resilience and Coping Skills
- Parenting Support and Community Resources

Class participation and involvement in tutorial classes include:

- Group readings on books
- Written reflections through narratives and autobiographies
- Case study and mini-research
- Collectives and networks on parenting groups and forums
- Preparing presentations

PRACTICAL
(Credit 1; Hours 30)

- To study recent research articles on parenting practices and write a report.
- To prepare a questionnaire on parenting practices and conduct a survey.
- To collect and analyze narrative accounts of adolescents with their parents.
- To develop guidelines/module for parents.
- Use of secondary sources to understand the depiction of parenting practices and the changing trends

Essential Readings

- Anderson, N. J., Graham, S. A., Prime, H., Jenkins, J. M., & Madigan, S. (2021). Linking quality and quantity of parental linguistic input to child language skills: A meta-analysis. *Child Development*, 92(2), 484-501.
- Arendell, T. E. (1997). *Contemporary parenting: Challenges and issues*. Sage Publications, Inc.
- Baker, A. J., Lcsww, P. R. F., & Fine, P. R. (2023). *Parenting Under Fire: How to Communicate with Your Hurt, Angry, Rejecting, Distant Kid*. Rowman & Littlefield.
- Bornstein, M. H. (2013). Approaches to parenting in culture. In *Cultural approaches to parenting* (pp. 3-19). Psychology Press.
- Bornstein, M. H. (2013). *Cultural approaches to parenting*. Psychology Press.
- Chao, R., & Tseng, V. (2002). Parenting of Asians. *Handbook of parenting*, 4, 59-93.
- Deb, S., & Chatterjee, P. (2008). *Styles of parenting adolescents: The Indian scenario*. Akansha Publishing House.
- Fisher, M., & DeBell, D. (2007). Approaches to parenting. *Public health practice and the school-age population*, 59-90.
- Gardner, F., Collishaw, S., Maughan, B., Scott, J., Schepman, K., & Hagell, A. (2012). Trends in parenting: can they help explain time trends in problem behaviour?. In *Changing Adolescence* (pp. 75-92). The Policy Press.
- Goldberg, A. E. (2022). *LGBTQ Family Building: A Guide for Prospective Parents*. American Psychological Association.
- Goldberg, A. E. (2023). LGBTQ-parent families: Diversity, intersectionality, and social context. *Current Opinion in Psychology*, 49, 101517.
- Lam, C. M., Kwong, W. M., & To, S. M. (2019). Has parenting changed over past decade? A qualitative study of generational shifts in parenting. *International Journal of Social*

- Science and Humanity, 9(2), 42-47.
- Ramey, S. L. (2001). The science and art of parenting. In Parenting and the child's world (pp. 47-71). Psychology Press.
 - Rolland, R. (2022). The Art of Talking with Children: The Simple Keys to Nurturing Kindness, Creativity, and Confidence in Kids. HarperCollins.
 - Selin, H. (Ed.). (2013). Parenting across cultures: Child rearing, motherhood and fatherhood in non-Western cultures (Vol. 7). Springer Science & Business Media.
 - Trommsdorff, G. (1995). Parent-adolescent relations in changing societies: A cross-cultural study. Psychological responses to social change: Human development in changing environments, 189-218.
 - Twum-Antwi, A., Jefferies, P., & Ungar, M. (2020). Promoting child and youth resilience by strengthening home and school environments: A literature review. International Journal of School & Educational Psychology, 8(2), 78-89.
 - Ungar, M. (2020). Working with children and youth with complex needs: 20 skills to build resilience. Routledge.
 - Yaffe, Y. (2023). Systematic review of the differences between mothers and fathers in parenting styles and practices. Current psychology, 42(19), 16011-16024.

GENERAL ELECTIVE COURSE

GE HS 033: ELDER CARE: APPROACHES AND METHODS FOR COMPASSIONATE CAREGIVING

CREDIT DISTRIBUTION, ELIGIBILITY AND PREREQUISITES OF THE COURSE

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
Elder Care: Approaches and Methods for Compassionate Caregiving	4	3	-	1	Class XII pass	NIL

Learning Objectives

1. To extend comprehensive understanding of the status and lives of elderly in India
2. To promote understanding of physical, psychological and social changes experienced by elderly individuals
3. To identify everyday and critical contexts of care for the elderly and build specific skills required to extend compassionate caregiving to them

Learning Outcomes

1. The student will reflect an understanding of the basic concept and demographics of old age in India
2. The student will demonstrate domain wise knowledge of the changing bodily and social needs of individuals in late adulthood

3. The student will be able to put into practice skills and capacities required to care for the elderly in diverse contexts with sensitivity and compassion

SYLLABUS

THEORY (Credits 3; Hours 45)

Unit I: Introduction to old age (9 Hours)

This unit will explain the demography of elderly, developmental tasks, theoretical perspectives and cultural perspectives of elderly.

- Concept of old age; characteristics of elderly
- Aging theories
- Developmental tasks of old age
- Primary and secondary aging
- Demography of elderly in India
- Elderly care in cultural perspectives

Unit II: Understanding changes in old age/ elderly (12 Hours)

This unit will explain the stages of elderly and focus on physical and physiological changes, social and personality changes in elderly.

- Physical and physiological changes
- Sensory and perceptual changes
- Psychological changes
- Personality changes
- Changes in family and living arrangement
- Social changes
- Behavioural changes in old age

Unit III: Risk profile for the elderly (12 Hours)

This unit will explain the various risk profile in elderly such as physical inactivity, immune dysfunction, accidents and injuries.

- Nutritional deficiencies: Decreased bone mass, immune dysfunction
- Physical inactivity and sedentary lifestyle: Functional decline, loss of appetite
- Smoking and excessive alcohol consumption: Diabetes, cancer, cardiovascular diseases, and lung diseases
- Accidents and injuries: Infections, nosocomial complications, decreased physical functioning

Unit IV: Approaches to optimal and compassionate care (12 Hours)

This unit will explain self-care, family and societal support system, institutional care and integrated approaches for elderly.

- Living arrangement for elderly
- Self-care and counselling for elderly
- Family and social support
- Comprehensive Health care for elderly: Nutritional Assessment, Mental Health Assessment, Non-communicable disease management, Ophthalmic Assessment and Cardiovascular Risk Assessment
- Services, policies and programmes for elderly
- Institutional care for elderly: NGO and old age homes

- Integrated approach for building social support, awareness and intervention

PRACTICAL **(Credit 1; Hours 30)**

- Construct and conduct the interview schedule to assess physical changes
- To study challenges and care of elderly by using questionnaire method.
- Visit institution working for elderly
- Depictions of living arrangement for elderly in media: Audio-visual, Print and Theatre.
- Develop a poster to create community awareness on social and family support for elderly.
- Familiarizing psychological tests to intelligence, personality and mental health and well-being (Any three).
- Study the new technologies/ aids available for elderly by using multimedia.
- Visit to an old age home
- Case profile of an individual in old age about family support.
- Planning two-days' workshop/ education programme for elderly on self-care and changes in elderly

Essential Reading

- Berk, L. E. (1996). Child development. New Delhi: Prentice Hall.
- Harrigan, M., & Farmer, R. (1992). The myths and facts of aging. In R. L. Schneider & N. P. Knopf (Eds.), Gerontological social work: Knowledge, service settings, and special populations (pp. 29-67). Chicago, IL: Nelson Hall.
- Hurlock, E.B. (2007). Developmental psychology: A life – span approach. New Delhi: Tata McGraw – Hill.
- Malcom, L.Johnson. (2005). The Cambridge Handbook of Age and Ageing, New York, Cambridge University Press.
- Mussen, B. Conger,J.J., Kagan,J. and Huston, A. C. (1990). Child development and personality. New York: Harper and Row.
- Papalia, D.E., Olds, S.W. and Feldman, R.D. (2006). Human development.9th Ed. New Delhi: Tata McGraw- Hill.
- Santrock, J.W. (1999). Lifespan Development. NewYork. The McGraw- Hill Companies
- Mala, K (2021). Ageing Issues in India: Practices, Perspectives and Policies. New Delhi: Springer, Chapter 1 & 2, pg 1-11.
- Hill, P., & Allemand, M. (2020). Personality and Healthy Aging in Adulthood. New Delhi: Springer, Chapter 9,10 and 11, pg 133-173.
- Lyons , C. W (2023). From Birth to Late Adulthood: An Introduction to Lifespan Development. Cognella, Inc; 2nd edition. ISBN-13: 978-1793585103.
- Bailey, A., Hyde, M & James, S. K (2023), Care for Older Adults in India: Living Arrangements and Quality of Life (Ageing in a Global Context). Policy Press; Abridged edition. ISBN: 978-1447357391.
- Andrea, L & Dantas E (2023). Care and Attention to the Elderly. Our Knowledge Publishing, India. ISBN: 978-6206132974.
- Santrock, J. W (2021). Lifespan Development | 17th Edition. McGraw Hill; 17th edition McGraw Hill Education (India) Private Limited, Candor Tech-Space, 8th Floor, Tower No 5, Plot No 2, Block B, Sector 62, Noida, Uttar Pradesh - 201309; 18001035875.

GENERAL ELECTIVE COURSE
GE HS 034: SOCIAL ENTREPRENEURSHIP FOR ESTABLISHING CHILDREN'S PROGRAMMES

CREDIT DISTRIBUTION, ELIGIBILITY AND PREREQUISITES OF THE COURSE

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
Social entrepreneurship for establishing Children's programmes	4	3	-	1	Class XII pass	NIL

Learning Objectives

1. To introduce the concept of social enterprise in development work for children
2. To identify national and global childhood development needs
3. To profile major social development programs for children in India
4. To provide foundations for capacity building for future development professionals and entrepreneurs.

Learning Outcomes

1. The student will demonstrate understanding of the basic concept and characteristics of social entrepreneurship
2. The student will be able to identify development and programmatic needs of children in diverse contexts
3. The student will develop skills in the basics of planning a social enterprise

SYLLABUS

THEORY (Credits 3; Hours 45)

Unit I: Introduction to Social Entrepreneurship (10 Hours)

This unit will explore the conceptual link between entrepreneurship, social entrepreneurship; its history and scope within India.

- Entrepreneurship and Social Entrepreneurship
- Social Entrepreneurship: Characteristics and Dimensions
- Evolution of Social Entrepreneurship
- Indian context of Social Entrepreneurship in development work with children

Unit II: Social sector perspective and Sustainable Development Goals (12 Hours)

This unit will throw light upon the linkages between Sustainable Development Goals and the scope of intervention of social ventures towards achieving them.

- Concept of Sustainable Development

- Introduction to Sustainable Development Goals (SDG's)
- Focus on area specific SDG's affecting children: Education, Health, Nutrition, Drinking Water & Sanitation etc.
- Social ventures and their contribution towards SDG's

Unit III: Social ventures, NGO's and Children specific programmes (12 Hours)

This unit will explore Children specific programmes in India.

- Government provisions for children's programs
- Programmatic action and policy support for children living in difficult circumstances
- Contribution of NGOs in implementing programmes for children In India

Unit IV: Starting a social enterprise (12 hours)

This unit will explore the basics of starting a program for children based on developmental and societal needs assessment.

- Needs assessments within social contexts relating to children
- Fields of opportunities, Methods of sensing entrepreneurial opportunities, Assessing and prioritizing opportunities
- Enterprise launching and its procedures – start-ups – incubation – accessing venture capital – CSR funds - PPP
- Study of successful models such as, case study on Annapurna, Goonj, cooperative-first book etc.
- Issues and challenges in developing programmes for children in the Indian context

PRACTICAL (Credit 1; Hours 30)

- Comparative analysis of an NGO and social venture working in the field of specific Sustainable Development Goals.
- Documentary review, literature review focusing on contemporaneous developmental issues.
- Workshop by industry experts.
- Visit to institution working in the field of specific Sustainable Development Goals.
- Exploring different settings using mental mapping and photo elicitation.
- Develop a digital poster to create awareness within community related to children's programme and SDG's.

Essential Readings

- Joshi, K., & Khare, P. (2021). The Role of Local Connections in Network Configuration: A Case of Social Enterprise in India. *Journal of Social Entrepreneurship*, 1-27.
- Aggarwal, N., Khurana, S., & Aggarwal, M. (2020). A paper on the success of social entrepreneurship in India. *International Journal of Scientific & Technology Research*, 9(1)
- Bansal, S., Garg, I., & Yadav, A. (2020). Can social entrepreneurship help attain sustainable development goals: A study of India. *World Review of Entrepreneurship, Management and Sustainable Development*, 16(2), 172-186.
- Datta, P. B., & Gailey, R. (2012). Empowering women through social entrepreneurship: Case study of a women's cooperative in India. *Entrepreneurship Theory and Practice*, 36(3), 569-587.

- Bornstein, D. (2007). How to change the world: Social entrepreneurs and the power of new ideas. New York: Oxford University Press.
- Horn, M. Denise. (2013). Democratic Governance and Social Entrepreneurship. Routledge: New York.
- Kickull, Jill and Lyons, S. Thomas. (2012). Understanding Social Entrepreneurship. Routledge: New York
- Kramer, M. R. (2005). Measuring innovation: Evaluation in the field of social entrepreneurship
- Praszkie, Ryszard and Nowak, Andrzej. (2012). Social Entrepreneurship Theory and Practice. Cambridge University Press: New York
- Chopra, G. (2015). Child Rights in India: Challenges and Social Action. New Delhi: Springer.

HOME SCIENCE: FOOD AND NUTRITION

GENERAL ELECTIVE COURSE

GE HS 035: FOOD SCIENCE

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course Title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical		
Food Science	4	3	0	1	Class XII pass	NIL

Learning Objectives

1. Understanding food science, its chemistry and techniques of food preservation.
2. Understanding microorganisms and their roles in food processing and spoilage.

Learning Outcomes

Students will be able to:

1. Imparting skills of food preservation techniques to ensure food safety and nutritional quality of processed foods.
2. Students will acquire the ability to critically assess food quality and understand the role of food legislation in maintaining industry standards.

3. Learning the methods of food evaluation and applying food laws to uphold quality standards.

SYLLABUS

THEORY **(Credits 3; Hours 45)**

UNIT I: Understanding Food Science and chemistry (15 Hours)

The unit describes the scope of food science along with its importance in contemporary world. Also, students will develop an understanding of the chemical changes as well as functional roles of food components.

- Introduction to food science: Definition, importance and applications, introduction to food groups.
- Functional properties of food components- Carbohydrates- types, properties and changes in starch during cooking (gelatinization, dextrinization, retrogradation, syneresis). Role of sugars in food applications (maillard reaction and caramelization). Functional properties of lipids and proteins. Effect of heat, acid, alkali on pigments present in foods.
- Colloidal Chemistry-Definition and types of emulsions, foams, sols, gels and their applications in food.

UNIT II: Preservation techniques and role of microorganisms in foods (20 Hours)

The unit describes the role of microorganisms in food products and their importance in spoilage and food preservation. It also elaborates the techniques of food preservation for extending the shelf life of food.

- Introduction to microbes in food –Characteristics of predominant micro-organisms in food (yeast, molds and bacteria), bacterial growth curve, factors influencing growth of microorganisms.
- Role of microorganisms in food spoilage and preservation - Important food spoilage micro-organisms (psychotropic, thermophilic, osmophilic microbes), spoilage in specific food groups (raw meat, fruits & vegetables), role of microorganisms in food fermentation.
- Food preservation techniques- Preservation of food by Low temperature (Freezing, refrigeration), High temperature (Drying and dehydration, canning, pasteurization), Irradiation, use of additives and packaging.

UNIT III: Quality Assurance, Food Laws and Sensory Evaluation of food (10 Hours)

The unit draws focus on various national and international food regulations and standards and describes their importance in food safety and quality management. Students will also be exposed to the techniques of sensory evaluation of food.

- Quality Assurance procedures - GMP, GHP, HACCP
- National and International food laws – FSSAI, Codex and ISO: 22000, ISO: 9000, ISO:14000.

- Physiological basis of sensory evaluation and sensory attributes of food.
- Sensory evaluation: Assessment, subjective and objective.

PRACTICAL

(Credit 1; Hours 30)

1. Analysis of moisture content and total soluble solids in foods.
2. Analysis of pH and acidity of food samples using standard methods of FSSAI.
3. Identification of micro-organisms (bacteria, yeast and molds) using permanent slides.
4. Application of colloidal chemistry to food preparation (e.g. foam, gels, sols).
5. Study of gelatinization behaviour of food starches and factors affecting gelatinization.
6. Preservation of food using different methods (Blanching, Dehydration, Freezing).
7. Understanding sensory evaluation of food through recognition and threshold for basic tastes.

Essential Readings

- Frazier WC and Westhoff DC (2014). Food Microbiology, Fifth Edition. TMH Publication, New Delhi.
- Manay NS and Shadaksharaswamy M (2008). Food-Facts and Principles, Third Edition. New Age International (P) Ltd. Publishers, New Delhi.
- Mathur P. (2018). Food Safety and Quality Control. Orient BlackSwan Pvt. Ltd., Hyderabad.
- Potter NN and Hotchkiss H J (1996). Food Science, Fifth Edition. CBS Publication, New Delhi.
- Suri, S. and Malhotra, A. (2014). Food Science Nutrition and Safety. Delhi: Pearson India Ltd.

Suggested Readings

- Mohini Sethi, Eram Rao (2011). Food science- Experiments and applications, Second Edition. CBS publishers & Distributors 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.

GENERAL ELECTIVE COURSE
GE HS 036: APPLIED HUMAN PHYSIOLOGY

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course Title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical		
Applied Human Physiology	4	3	1	0	Class XII pass	NIL

Learning Objectives

1. To learn about the structural organization of the human body.
2. To understand the normal functioning of the organ systems and their interactions.
3. To correlate physiological changes with major disorders and their pathogenesis.

Learning Outcomes

Students will be able to:

1. Understand the knowledge about the functional organization of the human body.
2. Develop insight into normal functioning of all the organ systems of the body and their interactions
3. Correlate physiology with various disorders and their pathogenesis.

SYLLABUS

THEORY
(Credits 3; Hours 45)

Unit I: Introduction to General Human Physiology, Blood & Immunity (11 Hours)

The unit presents the student with an overview of the general concepts of human anatomy and human physiology. It also makes the student understand blood component and their disorders in brief.

General Terms: Anatomy, Physiology, symmetrical arrangement, anatomical position, Median plane/ lateral plane, Internal/external, Superficial/ deep, Superior/ Inferior, Anterior/ posterior.

Introduction to various systems of the body:

- Animal Cell: structure, and functions of each component (organelle) of the cell.
- Tissues: Structure and functions of various types of tissues.
- Various types, functions, and structures of bone, cartilage & muscle

- Blood Vessels (Arteries, veins & capillaries)

Blood and Immunity

- Blood and Plasma Protein -Composition and Function
- Lymph and lymphatic ducts
- Blood formation and factors controlling Erythropoiesis
- Definition and Classification of Anemia
- Immunity: (Innate, Acquired, Humoral and Cell-Mediated Immunity)

UNIT II: Fundamentals of Human Physiology

(34 Hours)

The unit presents the student with an understanding of the gross and microscopic structure of the major organs of the human body. The unit also presents the student with an understanding of the functioning of the major systems of the human body and its correlation with the pathogenesis of disease conditions.

- *Cardiovascular System:* Heart and its structure, circulations (systemic, pulmonary and portal), Cardiac cycle, Cardiac Output, and Blood Pressure.
- *Digestive system:* Structure of Mouth, pharynx, esophagus, stomach, liver, gall bladder, pancreas, spleen, intestines and glands associated with the gastrointestinal tract.
- Functions of: Stomach, Liver, Gallbladder, Pancreas and Intestines. Digestion and absorption of carbohydrates, fats and proteins Nervous and hormonal control of digestion (in brief)
- *Urinary system:* Structure of kidney, ureters, bladder, and urethra
- Functions of Kidney and Nephron, non-excretory functions of kidneys, Mechanism of urine formation,
- *Endocrine system* Structure and functions of Pituitary, Thyroid, Pancreas, Ovary and Testes. Feedback mechanism/cascade functions of Pituitary, Thyroid, Pancreas, Ovary and Testes
- *Reproductive System:* Structure of uterus, fallopian tubes & mammary gland
- Physiology of menstruation, lactation and menopause
- Overview of organization and functions of the Nervous System (cerebrum, cerebellum, spinal cord, sympathetic and parasympathetic system.

TUTORIAL

(Credits 1; 15 Hours)

Tutorial sessions will complement the theoretical framework discussed in lectures. It will engage in discussion to cater for the doubts related to the Application aspect of Human Physiology, case studies, and collaborative projects that enhance students' understanding of physiology and pathogenesis. These sessions will bridge the gap between theory and application.

1. The basic concept of blood groups, types, importance and Rh incompatibility
2. Clinical significance of RBC, WBC and Platelet counting.
3. Case study of Iron deficiency Anemia, investigations and diagnosis.

4. Pulse rate measurement by at least two methods – a) at rest b) after physical activity and c) of a child and an elderly person. Comparative analysis. Discussion of causes of Bradycardia, Tachycardia.
5. Recording of BP by using a Sphygmomanometer in Standing, sitting and recumbent position. Discussion of a case of Hypertension.
6. Demonstration of clinical examination to see for pallor, cyanosis, jaundice, oedema and dehydration and their importance.
7. Clinical significance of Liver function tests and Jaundice
8. Clinical significance of Variations in blood glucose and Diabetes mellitus.
9. Project Report on Birth Control Methods.
10. Basic First Aid Procedures and CPR.

Essential Readings

- Chaudhari S K (2016) Concise Medical Physiology.7th Edition. Central.
- Ganong W.F. (2019)-Review of Medical Physiology.26th ed. McGraw Hill.
- Guyton A.C. and Hall J.E. (2015) Textbook of Medical Physiology.13th ed. India: Harcourt Asia.
- Tortora G.J and Grabowski S.R. (2020) Principles of Anatomy and Physiology.16th ed. John Wiley and Sons.Inc.
- Park JE and Park K (2021). Park's Textbook of Preventive and Social Medicine, 26th ed
- Practical Workbook of Human Physiology, K Sri Nageswari and Rajeev Sharma, 2nd Edition 2018
- Textbook of Practical Physiology, G K Pal and Pravati Pal 5th Edition (2020)
- A Textbook of Practical Physiology, CL Ghai, 8th Edition, (2013)
- https://www.who.int/health-topics/anaemia#tab=tab_1
- https://www.who.int/health-topics/contraception#tab=tab_1

Suggested Readings

- Jain A. K (2019) Human Physiology for BDS (6th Edition), Publisher: Avichal Publishing Company; ISBN: 9788177394337.
- Marieb E.N(2014) Human Anatomy and Physiology (10th ed)Pearson Education, Inc, publishing as Benjamin Cummings.
- West J.B. (1996): Physiological Basis of Medical Practice.12th Edition. B. I. Waverly Pvt. Ltd.
- Vander's Human Physiology (2016) (WCB APPLIED BIOLOGY). 13th ed.
- Human Physiology: From Cells to Systems (2012) (Mindtap Course List) 8th ed.
- Comprehensive Textbook of Medical Physiology (Volume 2), 2017 by Gopal Krushna Pal, Pravati Pal, Nivedita Nanda.

GENERAL ELECTIVE COURSE

GE HS 008: ENTREPRENEURSHIP FOR SMALL CATERING UNITS

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course Title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical		
Entrepreneurship for Small Catering Units	4	3	0	1	Class XII pass	NIL

Learning Objectives

1. To develop skills in menu planning and quantity food production for various food service organizations within specific budgets.
2. To equip students to run a food service unit as entrepreneurs.

Learning Outcomes

Students will be able to:

1. Acquire fundamental knowledge of menu planning and resource management in a food service establishment.
2. Develop understanding of recipe standardization and quantity food production.
3. Develop understanding of making a business plan for a small food service unit.
4. Apply the knowledge gained for starting a successful food service unit.

SYLLABUS

THEORY

(Credits 3; Hours 45)

Unit I: Introduction to Food Service Management (4 Hours)

Basics of management and food service for a small food establishment

- Principles of Management
- Functions of Management
- Types of food service systems

Unit II: Production Process in a Food Service Establishment (20 Hours)

Components of food production cycle to run a small-scale food service unit.

- Menu Planning: Importance of menu, Factors affecting menu planning, Types of menu
- Food purchase and receiving
- Storage
- Quantity food production: Standardization of recipes, Recipe adjustment and portion control, Techniques of quantity food production
- Food service
- Food hygiene and sanitation, National food regulations

Unit III: Resource Management in a Food Service Unit (15 Hours)

Understanding fundamentals of space, personnel and financial management

- Types of kitchen areas, Flow of work and work area relationship
- Equipment: Factors affecting selection of equipment, Equipment needs for different situations
- Personnel Management: Functions of a personnel manager, Factors to consider while planning the kind and number of personnel
- Financial Management: Importance of financial management, Budgets and budgeting process, Cost concepts

Unit IV: Planning a Food Service Unit (6 Hours)

Developing business plan and strategies for establishing a small-scale food service unit

- Identifying resources, Developing project plan, Determining investments
- Basics of marketing: 4P's
- Development of a business plan

PRACTICAL (Credit 1; Hours 30)

1. Market survey for food items both raw and processed
2. Planning nutritious tiffins for school children
3. Planning menus for school/college canteens
4. Quantity Food Production
Standardization of recipes
 - Scaling up to larger amounts (20-30 portions)
 - Setting up a small food counter for sale of above products
5. Developing tools to assess/ promote good hygiene practices at food service units

Essential Readings

- Payne- Palacio J and Theis M (2011) Food service Management: Principles and Practices. 12th ed. Pearson Education., Chapter 11, pg 308-334.
- Sethi M (2005) Institutional Food Management, New Age International Publishers, Chapter 6, pg 153-165.
- West B and Wood L (1988) Food Service in Institutions 6th Edition, Chapter 9, Pg 311-367.
- Desai V (2011) The Dynamics of Entrepreneurial Development and Management, Himalaya Publishing House Pvt. Ltd., Mumbai. Chapter 45-48, pg 612-685.

Suggested Readings

- Knight J B and Kotschevar LH (2000) Quantity Food Production Planning & Management 3rd edition, John Wiley & Sons.
- Kotas R and Jayawardardene C (1994) Profitable Food and Beverage Management, Hodder & Stoughton Publications.
- Roday S (2003) Food Hygiene and Sanitation , Tata McGraw Hill Publication Ltd.
- Taneja S and Gupta SL (2001) Entrepreneurship Development. Galgotia Publishing.
- Dessler Gary (2007) Human Resource Management 11th edition, New Jersey: Prentice Hall.
- Basic Food Safety Training Manual Catering (<http://www.fssai.gov.in/home/capacity-building/e-library/training-manual.html>).
- Street Food Vendor Training on Food Safety and Hygiene (<http://www.fssai.gov.in/home/capacity-building/e-library/training-manual.html>).

GENERAL ELECTIVE COURSE

GE HS 037: CONCEPTS IN NUTRITIONAL BIOCHEMISTRY

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

CourseTitle & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of thecourse (if any)
		Lecture	Tutorial	Practical		
Concepts in Nutritional Biochemistry	4	3	0	1	Class XII pass	NIL

Learning Objectives

1. To provide basic concepts of biomolecules, the basic building blocks vital for various life forms.
2. To focus on structures, properties and biological functions of biomolecules.
3. To outline organic and physical aspects of biomolecules.

Learning Outcomes

Students will be able to:

1. Develop a basic concept of Biochemistry.
2. Develop an insight into structures, functions and biochemical role of carbohydrates, proteins, lipids, vitamins and minerals.

SYLLABUS

THEORY (Credits 3; Hours 45)

Unit I: Carbohydrates

(14 Hours)

Students will be able to learn the structures, physical and chemical properties of carbohydrates, also able to understand spatial arrangements.

- Introduction, classification, structure and biological significance of carbohydrates
 - Monosaccharides-glucose, fructose, mannose and galactose
 - Disaccharides – maltose, lactose and sucrose
 - Polysaccharides– dextrin, starch and glycogen
- General chemical properties of monosaccharides (oxidation, reduction, osazone formation, action of alkali, glycoside bond formation)
- Stereoisomerism of monosaccharides (Keto-aldo forms, D- and L-isomers, epimerism, anomerism, mutarotation)

Unit II: Lipids

(12 Hours)

Students will be able to learn classification of lipids into various groups on the basis of their structure and properties, nutritional role, diverse functional aspects, chemical properties of lipids.

- Introduction and classification of lipids
- Essential and non-essential fatty acids
- Function of lipids (storage lipids-triacylglycerols; Membrane lipids-phospholipids and sphingolipids), cholesterol; Eicosanoids; prostaglandins; lipoprotein.
- Acid value, iodine value, saponification value and hydrogenation.

Unit III: Amino acids and Proteins

(12 Hours)

Students will be able to understand structure, classification and nutritional importance of amino acids, elementary knowledge of protein structures and also able to learn catalytic form of protein.

- Introduction, classification and structure of standard amino acids
- Essential and non-essential amino acids
- Peptide bond, dihedral angles ψ and ϕ
- Structure of proteins-primary, secondary (α -helix, β -sheets and β -turns) tertiary and quaternary.
- Introduction to enzymes, active site, co-enzymes, prosthetic groups.

Unit IV: Vitamins and Minerals

(7 Hours)

Students will be able to learn importance and classification of vitamins and their biochemical role; also, able to learn biochemical role of Inorganic elements.

- Definition and classification of vitamins
- Biochemical role of fat-soluble vitamins-A and D
- Biochemical role of water-soluble vitamins- Thiamine, Riboflavin, Niacin, Pyridoxine, Folic acid, Cobalamin and Ascorbic acid.
- Biochemical role of inorganic elements – iron, calcium, phosphorous, iodine, selenium and zinc.

PRACTICAL (Credit 1; Hours 30)

1. Qualitative tests for carbohydrates.
2. Protein estimation by spectrophotometry.
3. Separation and identification of amino acid by paper chromatography.
4. Quantitative analysis of Calcium by EDTA titrimetric method.
5. Estimation of ascorbic acid using 2,6 dichlorophenol indophenol method.

Essential Readings

- Nelson, D. L. & Cox, M. M. (2021). Lehninger principles of biochemistry (8th ed.). Macmillan International Higher Education.
- Kennelly, P.J. (2023). Harper's illustrated biochemistry (32nd ed.). New York: McGraw-Hill.
- Sundararaj P. & Siddhu, A. (2002). Qualitative tests and Quantitative Procedures in Biochemistry (2nd ed.). New Delhi: A. H. Wheeler and Co Ltd.
- Satyanarayana, U & Chakrapani U. (2020). Biochemistry (5th ed.). Books and Allied (P) Ltd.

Suggested Readings

- West, E.S. & Todd W.R. (1966). Textbook of Biochemistry (4th ed.). New York: Macmillan.
- Sawhney, S.K. & Singh, R. (2022). Introductory Practical Biochemistry (2nd ed.) Narosa Publishing House.

GENERAL ELECTIVE COURSE

GE HS 038: DIET THERAPY

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course Title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical		
Diet Therapy	4	3	0	1	Class XII pass	NIL

Learning Objectives

1. To understand the basic principles of diet therapy and nutrition care process.
2. To learn the modification of normal diets in the management of common diseases.
3. To understand the etiopathophysiology and metabolic anomalies of various disorders/diseases and provide appropriate nutrition care for their management and prevention.

Learning Outcomes

Students will be able to:

1. Understand the principle of diet therapy and the nutrition care process.
2. Develop an ability to modify a normal diet for therapeutic purposes.
3. An understanding of the etiology, pathophysiology, metabolic changes, clinical symptoms, and management of some common disorders/diseases.

SYLLABUS

THEORY

(Credits 3; Hours 45)

Unit I: Introduction to Diet Therapy and Nutrition Care Process

(9 Hours)

Students will be introduced to the concept of diet therapy (Medical Nutrition Therapy- MNT) and nutrition care process, therapeutic adaptations of normal diets, and progression of diets from liquid to solid. The concept of nutrition support systems will also be discussed.

- Concepts of diet therapy
- Therapeutic adaptations of the normal diet
 - Progressive diets – clear fluid, full fluid, soft and regular
 - Introduction to enteral and parenteral nutrition
- Nutrition care process
 - Nutritional screening and assessment of patients
 - Nutrition diagnosis, nutrition intervention
 - Nutrition monitoring, evaluation, and follow-up

Unit II: Febrile and GI disorders and their dietary management (12 Hours)

Students will understand the etiopathophysiology, metabolic & clinical aberrations, diagnosis, complications, treatment, MNT, and recent advances in different diseases/disorders.

- Febrile disorders- Relation between nutrition and immunity, Typhoid, Tuberculosis, HIV-AIDS
- GI Tract disorders- Diarrhoea, Constipation, Lactose Intolerance, Celiac Disease
- Infective hepatitis

Unit III: Dietary intervention for weight management and eating disorders (12 Hours)

Students will understand the etiopathophysiology, metabolic & clinical aberrations, diagnosis, complications, treatment, MNT, and recent advances in weight related disorders.

- Weight management- Underweight, Overweight and Obesity
- Eating disorder- Anorexia nervosa and Bulimia nervosa

Unit IV: Lifestyle-related disorders and their dietary management (12 Hours)

Students will understand the etiopathophysiology, metabolic & clinical aberrations, diagnosis, complications, treatment, MNT, and recent advances in lifestyle related disorders.

- Diabetes Mellitus (Type 1, Type 2)
- Hypertension
- Dyslipidemia
- Metabolic Syndrome
- Diet for cancer prevention

PRACTICAL (Credit 1; Hours 30)

1. Planning of diets for

- Acute/chronic fever
- Diarrhoea
- Hepatitis
- Obesity
- Type 2 diabetes
- Hypertension

- Metabolic Syndrome/Dyslipidemia

2. Planning snacks for

- Constipation
- Celiac Disease
- Lactose intolerance
- Underweight

3. Preparation of selected diets and snacks

Essential Readings

- ICMR (2020) Estimated Average Requirements and Recommended Dietary Allowances for Indians. Published by National Institute of Nutrition, Hyderabad (Revised).
- Indian Dietetics Association, (2018) Clinical Dietetics Manual, 2nd Edition. Elite Publishing House Pvt. Ltd.
- Khanna K, Gupta S, Seth R, Passi SJ, Seth R, Mahna R, Puri S (2013). Textbook of Nutrition and Dietetics. 2nd Edn. Phoenix Publishing House Pvt. Ltd.
- Longvah T, Ananthan R, Bhaskarachary K and Venkaiah K (2017). Indian Food Composition Tables. National Institute of Nutrition, ICMR, Hyderabad.
- Puri S, Bhagat A, Aeri, BT, Sharma A (2019). Food Exchange List: A Tool for meal Planning. Elite Publishing House. New Delhi.
- Raymond, J.L. and Morrow, K. (2020) Krause and Mahan's Food & the Nutrition Care Process. 15th ed. Saunders-Elsevier
- Siddhu A, Bhatia N, Singh K, Gupta S (2017). Compilation of food exchange list, technical series 6, Lady Irwin College, University of Delhi. Publ. Global Books Organisation, Delhi
 - Seth, V. and Singh K. (eds.) (2021) Principles of Medical Nutrition Therapy for Positive Clinical Outcomes, 1st Edition. Elite Publishing House Pvt. Ltd.

Suggested Readings

- Chowdhary, S.R. and Aeri, B.T. (2023). Textbook of Food Science and Nutrition. 1st Edition. Aarahan Publishers.
- Joshi Y K. (2008) Basics of Clinical Nutrition 2nd ed. Jaypee Brothers Medical Publishers
- Gibney MJ, Elia M, Ljungqvist & Dowsett J. (2005) Clinical Nutrition. The Nutrition Society Textbook Series. Blackwell Publishing Company.
- Shils, M.E., Shike, M, Ross, A.C., Caballero B and Cousins RJ (2005) Modern Nutrition in Health and Disease. 10th ed. Lipincott, William and Wilkins.
- Williams, S.R. (2001) Basic Nutrition and Diet Therapy. 11th ed. Times Mirror Mosby College Publishing.

GENERAL ELECTIVE COURSE

GE HS 039: NUTRITION AND FITNESS

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course Title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical		
Nutrition and Fitness	4	3	0	1	Class XII pass	NIL

Learning Objectives

1. To develop the concepts of fitness, components of physical fitness, measurements and approaches for improving recreational physical fitness.
2. To facilitate understanding of nutritional principles with respect to nutritional care of recreational athletes.

Learning Outcomes

Students will be able to:

1. Understand concepts of physical fitness, its assessment and approaches to improve recreational physical fitness.
2. Apply knowledge of the metabolism and energy systems in continuum of physical activity and exercise.
3. Effectively plan and implement nutritional care for recreational athletes.

SYLLABUS

THEORY (Credits 3; Hours 45)

UNIT I: Understanding Fitness and its Components (8 Hours)

Students will be introduced to the concepts of health and skill related physical fitness. Physical activity recommendations and approaches to improve physical fitness will be disseminated.

- Terms associated with Health and Fitness.
- Physical fitness components and their assessment methods.
- Physical activity recommendations.
- Approaches and guidelines to improve physical fitness.

UNIT II: Fundamentals of Nutrition for physical fitness (16 Hours)

This unit will elaborate upon energy systems for physical activity and exercise. It will discuss the importance and requirements of macro- and micro- nutrients for recreational athletes.

- Energy systems and fuel utilization for exercise
- Fuel utilisation in exercise continuum
- Macro nutrient requirements for exercise
- Micro nutrients for recreational athletes

UNIT III: Hydration and supplements for physical fitness (13 Hours)

This unit will highlight the hydration requirements, hazards of dehydration and rehydration strategies for recreational athletes, followed by a description of supplement use for physical fitness.

- Fluid requirements for recreational athletes
- Rehydration strategies and monitoring for recreational athletes.
- Supplements

UNIT IV: Body composition alterations for recreational athletes (8 Hours)

In this final unit, students will learn principles of body composition alteration, their application and common fad diets.

- Principles of weight management
- Fat loss
- Gain in Lean Body Mass.
- Fad diets

PRACTICAL (Credit 1; Hours 30)

1. Physical Activity Readiness Questionnaire (PARQ) assessment and interpretation.
2. Identification of Energy systems and fuel for continuum of exercise.
3. Physical activity promotion for various age groups.
4. Planning a day's diet for a fitness trainee who works out regularly at a gymnasium.
5. Planning a hydration drink, rehydration plan and a hydration-monitoring schedule for a gymnasium trainee.
6. Planning a weight loss diet for a recreational athlete.
7. Planning a diet for lean body mass gain for a recreational athlete.
8. Survey of fitness and sports supplements.
9. Critical analysis of any 5 fad diets.
10. Planning and execution of an activity relevant to a syllabus.

Essential Readings

- Burke LM and Deakin V. (2002) Clinical Sports Nutrition, 2nd edition, Publishers McGraw Hill.
- Bushman B. (2017) ACSM's Complete Guide to Fitness & Health 2nd Edition, Published by ACSM.
- Joshi SA. (2015) Nutrition and Dietetics (With Indian Case Studies), Fourth edition, publishers McGraw Hill.
- Lal, P.R. (2009). Handbook of Sports Nutrition. Friend's Publications, New Delhi, India. ISBN 13: 978-8172162818
- WHO (2020). WHO guidelines on physical activity and sedentary behaviour
<https://iris.who.int/bitstream/handle/10665/336656/9789240015128eng.pdf?sequence=1>

Suggested Readings

- Fink H.H and Mikesky A.E. (2017) Practical Applications in Sports Nutrition 5th Edition.
- Hickson JF and Wolinsky I. (1997) Nutrition for exercise and Sport. 2nd ed. CRC Press.
- Mahan, L. K. and Escott Stump S. (2016) Krause's Food & Nutrition Therapy. 15th ed. Saunders-Elsevier.

HOME SCIENCE: DEVELOPMENT COMMUNICATION AND EXTENSION

GENERAL ELECTIVE COURSE

GE HS 040: COMMUNICATION AND EXTENSION: CONCEPTS AND THEORIES

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
Communication and Extension: Concepts and Theories	4	3	1	0	Class XII pass	NIL

Learning Objectives

- To learn about the concept, nature, and scope of communication.
- To understand the process of communication with the help of theories, models, and elements of communication.
- To gain an understanding of the communication concepts such as Perception, Empathy, Persuasion, and Listening and their role in Effective Listening.
- To appraise the concept, nature, and Philosophy of Extension and the media/methods of community outreach.

Learning Outcomes

The students would be able to:

- Develop a clear understanding of the concepts of human communication.

- Comprehend the elements and models governing the process of effective communication.
- Gain an understanding about the related concepts of communication such as Perception, Empathy, Persuasion, and Listening.
- Appraise the concept, nature philosophy of Extension, and media/methods of community outreach.

SYLLABUS

THEORY (Credits 3; Hours 45)

UNIT 1: Communication: Core Concepts (18 hours)

Unit 1 explores the fundamentals of Human Communication tracing the history of communication from the olden times to the present times. It highlights the concept, nature, types, scope, factors for effective communication and postulates of communication and discusses the functions performed through communication

- Historical background, Concept, nature, functions, principles, and scope of communication
- Levels of Communication transactions
- Types of Communication-Formal and informal communication; Verbal and Non-verbal communication; Digital and Non-digital communication
- Verbal communication: Principles, types, effective use of verbal messages for communication
- Non-verbal communication- functions, types, skills, channels of non-verbal communication
- Factors for effective communication: Definitions, goals, and principles of Empathy, Perception, and Persuasion
- Culture and communication- Relationship between culture and communication, signs, symbols, and codes in communication

UNIT II: Communication Models and Theories (16 hours)

Unit II emphasizes upon the elements in the process of communication and the role of listening in the communication process. It also explores important models and theories of the communication process. The unit further delves on the importance of these models and theories for understanding the effectiveness of communication as a process.

- Elements of communication – Source, Message, Channel, Receiver, Feedback, Context, Noise & Effects
- Listening in Human Communication: Listening process, the significance of good listening, listening styles, barriers to listening, culture and listening, and listening theories.
- Models of Communication: Types of models- Linear, Interaction, and Transaction models, (Models by Aristotle, Harold Laswell, Shannon & Weaver, Charles Osgood, Wilbur Schramm, Helical model)
- Theories of Communication: Mass Society, Propaganda, Limited Effects, Individual Difference, and Personal Influence

UNIT III: Communication for Extension

(11

hours)

Unit III focuses on the role of audio-visual aids for effective communication & outreach. It discusses the concept, nature, and philosophy of Extension. It also explores the principles of Extension, Roles and Responsibilities of Extension Workers as well as the methods and Media used for community outreach

- Concept, nature, and philosophy of Extension
- Principles of Extension
- Extension worker: Role, responsibilities and qualities
- Methods and Media of community outreach; Audio-Visual aids- concept, classification, characteristics, and scope, Edgar Dale's Cone of Experience
- Relationship between, Communication, Extension and Development
- Scope of C4D

TUTORIAL

(Credit 1; Hours 15)

1. Exercises to understand visual communication: Elements of Art and Principles of Design

2. Exercises to explore dimensions of non-verbal communication
3. Exercises in effective listening skills
4. Exercises on building empathy for effective communication
5. Evaluating IEC materials

Essential Readings

- Anand, S. & Kumar, A. (2016). Dynamics of Human Communication. New Delhi: Orient Black Swan.
- Punhani & Aggarwal (2014). Media for Effective Communication. Elite Publishers, New Delhi.
- Devito, J. (2012). Human Communication. New York: Harper & Row.
- Vivian, J. (1991). The Media of Mass Communication. Pearson College Div; 11th edition (19 March 2012).
- Barker, L. (1990). Communication, New Jersey: Prentice Hall, Inc; 171.

Suggested Readings

- Baran, S. (2014). Mass Communication Theory. Wadsworth Publishing.
- Stevenson, D. (2002). Understanding Media Studies: Social Theory and Mass Communication, Sage Publications.
- Patri, V. R. and Patri, N. (2002). Essentials of Communication. Greenspan Publications
- McQuail, D. (2000). Mass Communication Theories. London: Sage Publications.
- Zeuschner, R. (1997). Communicating Today. California State University, USA.

GENERAL ELECTIVE COURSE

GE HS 041: COMMUNICATION SYSTEMS AND SOCIETY

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course & Title Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
Communication Systems and Society	4	3	1	0	Class XII pass	NIL

Learning Objectives

- To gain an in-depth understanding of various communication systems and their applications in personal and professional life.
- To acquire knowledge about the applications of communication transactions in the field of Development Communication.
- To appreciate and recognize the importance of understanding self through concepts of self-concept, self-esteem and self-disclosure.
- To understand the nuances of different levels of communication ranging from intra personal communication to organizational as well as intercultural communication.
- To throw light on the role of communication transactions in persuasion and influencing desired changes in individuals and groups.

Learning Outcomes

- Develop an understanding of various communication systems and their relevance.
- Comprehend the various levels of communication transactions and their applications in Development Communication approaches.
- Gain understanding of self through self-concept, self-awareness and self-esteem.
- Recognize and appreciate various communication networks in personal and professional spheres.

- Understand how mass communication and media impact society through mass communication theories and models and their significance.

SYLLABUS

THEORY **(Credits 3; Hours 45)**

UNIT I: Intrapersonal and Interpersonal Communication (15 Hours)

The Unit I elucidate upon the various levels of communication transactions. This Unit in particular lays thrust on the Intrapersonal and Interpersonal Communication Systems and processes.

- Overview of communication transactions
- Intrapersonal Communication - Self Development, Looking Glass Self Theory, Self-concept and self-esteem, Awareness of Self & Johari's Window, Self-Disclosure, Communications for Building Self-Confidence
- Interpersonal Communication - Functions, Types of relationships- friendship, families, other relationships, Stages of relationship development, Interpersonal Competence, Communication in conflict management, relationship development and repair
- Theories of Relationship Development - Social Exchange Theory, Uncertainty Reductions Theory, Interpersonal Relationship Model

UNIT II: Small Group and Organizational Communication (15 Hours)

Unit II highlights the small group communication characteristics, functions and power of group conformity. It emphasizes on the organizational communication with focus on culture and leadership.

- Small group communication: Characteristics, Functions & Types
- Small Groups & Social Influence, Power in small group Conformity, Group Think, Polarization, Social Loafing
- Theories of group formation - Functional Theory, Structuration Theory, Symbolic Convergence Theory, Participatory theory

- Small Group Processes: Culture, Structure, Roles & Leadership
- Organization - concept, types and relationship in organization
- Organizational communication: Types: Formal Informal, Internal External, Direction & Networks, Functions, Tools used by organizations, challenges
- Communication in conflict management

Unit III: Public, Intercultural and Mass Communication

(15

Hours)

Unit III highlights the Communication networks in professional and public spaces. It provides insight into the dynamics of intercultural communication. It also highlights the various theories and models of mass communication and emphasizes the significance and characteristics of various mass media.

- Public communication - Concept, types, techniques and skills in public speaking, qualities of an effective public speaker, overcoming speaker apprehension
- Intercultural communication-concept, importance and relevance, stages and barriers
- Mass Communication - concept, significance, functions and elements
- Models and theories of mass communication
- Communication approaches for behaviour change
- Mass Media - Characteristics, classification, Evolution, significance of print, electronic and web-based media in contemporary society

TUTORIAL

(Credit 1; Hours 15)

1. Self-Awareness & Analysis of Communication with self
2. Analyzing the effectiveness of persuasion techniques
3. Evaluation of various communication strategies for social change

Essential Readings

- Anand, S., & Kumar, A. (2016). Dynamics of Human Communication. New Delhi: Orient Black Swan.

- Foss, K. A., & Oetzel, J. G. (2021). Theories of Human Communication. Waveland Press.
- Kumar, K. J. (2020). Mass Communication in India. Mumbai: Jaico Publishing House.
- McQuail, D. (2000). Mass Communication Theories. London: Sage Publications.
- Patri, V. R., & Patri, N. (2002). Essentials of Communication. Greenspan Publications.

Suggested Readings

- Baran, S. (2014). Mass Communication Theory. Wadsworth Publishing.
- Devito, J. (2012). Human Communication. New York: Harper & Row.
- Greene, J. O. (2021). Essentials of Communication Skills and Skill Enhancement. Taylor & Francis.
- Stevenson, D. (2002). Understanding Media Studies: Social Theory and Mass Communication. Sage Publications.
- Zeuschner, R. (1997). Communicating Today. California State University, USA.

GENERAL ELECTIVE COURSE

GE HS 042: EXTENSION PROGRAMME DESIGN FOR SUSTAINABLE DEVELOPMENT

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
Extension Programme Design for Sustainable Development	4	3	1	0	Class XII pass	NIL

Learning Objectives

- To understand the concept and scope of extension in national development.

- To develop an understanding of the principles and process of programme design and management.
- To develop skills in the use of participatory approaches in programme management.
- To develop sound knowledge for various development schemes, programmes and development goals.

Learning Outcomes

- The students will understand the relevance of participatory approaches in extension programme.
- The students will develop an understanding about the concept and scope of extension in national development.
 - They will develop skills for using participatory approaches in programme design and management.
 - The students will develop sound knowledge for various development schemes, programs and Sustainable Development Goals.

SYLLABUS

THEORY

(Credits 3; Hours 45)

UNIT I: Extension: Concept, Programme Design and Management (15 Hours)

This unit elucidates upon the concept, goals, philosophy and historical perspectives of extension. It also elaborates upon the principles and highlights the role of extension in the process of development. It provides insights about the principles of Extension Programme Design. It also elaborates on the different models of Extension Program Management.

- Extension: Concept, Goals, philosophy, historical perspectives and principles of extension
- Relationship between communication and extension - role of extension in development
- Objectives and components of Extension Programme Design
- Principles and process of Programme Management
- Models of Extension Program Management

- Project cycle- goals, objectives, indicators, outputs and outcomes
- Difference between monitoring and evaluation, participatory monitoring and evaluation

UNIT II: Participation, Leadership and Methods of Extension (15 Hours)

This Unit provides insights to the concept of people's participation and its various levels in programme management. It elaborates on the concept of leaders and leadership in extension. It highlights the various Participatory Learning and Action (PLA) tools and techniques. It also elaborates on the diffusion of innovation and community contact methods.

- People's participation social mobilization in development, levels of participation
- Participatory Learning and Action –concept, principles, classification of tools and techniques
- Leadership in extension-functions, types of leaders and leadership styles
- Diffusion of innovation and adoption- concept, theory and application
- Methods of Community contact in extension- Classification, characteristics and selection

Unit III: Development Programmes and Sustainable Development (15 hours)

This unit elucidates upon the development issues and goals pertaining to both national and international perspectives. It also focuses on the concept of sustainable development and the various Sustainable Development Goals.

- Development issues and goals- national and international perspectives.
- Contemporary National Development Programmes (related to education, employment, income, health and nutrition, digitalization and women) – objectives, target groups, salient features, monitoring and evaluation, outcomes and communication support
- Sustainable development: Meaning, Concept and dimension
- Goals of Sustainable development- income, education, health, longevity, poverty

TUTORIAL (Credit 1; Hours 15)

1. Analysis of development programmes

2. Develop skills in conducting PLA techniques for extension programme management
3. Evaluate strategies used by development agencies for implementation of development programmes
4. Evaluation of IEC material in disseminating information about relevant issues and programmes to the community
5. Develop skills in planning and using individual and small group methods in extension

Essential Readings

- Bansal, Vishakha. (2021). Text book of Extension Management Principles and Processes. Publisher: ATPA ISBN: 9789390647637
- Bisarya, S., and Shukla, A. (2023) Communication and Extension for Sustainable Development. Notion Press.
- Bhatnagar. O.P & Dahama, O.P. (2009). Education And Communication For Development 2ed. New Delhi: Oxford & IBH Publishing Co. Pvt Ltd. ISBN-13: 978-8120400306
- Kumar & Hansra, (1997) Extension Education for Human Resource Development. New Delhi: Concept Publishers.
- Ray G.L., (2015), Extension, Communication and Management, Paperback book publishing
- Sandhu, A S. (2018). Extension Programme Planning. New Delhi: Oxford and IBH Publishers. ISBN: 9788120409118

Suggested Readings

- Bapat, J. (2005). Development Projects and Critical Theory of Environment. New Delhi: Sage Publications.
- Mikkelsen, Britha, (2002). Methods for Development Work and Research. New Delhi: Sage Publications
- Patel, B., N. and Nagar R. (2018) Sustainable Development and India. OUP India.
- Shanmugam, K; Kumar, K. (2015). Environment and Development: Essays in Honour of Dr U. Sankar Hardcover. New Delhi: Sage Publication.
- Vassilis J. Inglezakis, Stavros G. Pouloupoulos (2016). Environment and Development: Basic Principles, Human Activities, and Environmental Implications. Elsevier 89

GENERAL ELECTIVE COURSE

GE HS 043: CORPORATE SOCIAL RESPONSIBILITY AND NGO MANAGEMENT

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
Corporate Social Responsibility and NGO Management	4	3	1	0	Class XII pass	NIL

Learning Objectives

- To inculcate understanding of concept of CSR and relevance in developing economies.
- To sensitize students to various CSR activities carried out in India.
- To develop key management competencies and analytical in the management of NGOs.
- To develop basic understanding regarding the structure and functioning of NGOs with effective strategies for networking and fundraising.

Learning Outcomes

The students would be able to:

- Develop understanding of CSR and guidelines/policies associated with the same.
- Identify and understand CSR work carried out across the country.
- Gain an understanding of the unique nature of the non-government sector and distinguish it from the government (public) and business (for-profit) sectors.

- Explore the historical, theoretical, and legal perspectives on non-government organizations, as well as current trends and issues of consequence to non-government organizations.
- Develop an understanding of management techniques and leadership skills for enhancing the effectiveness of non-government organizations.

SYLLABUS

THEORY

(Credits 3; Hours 45)

UNIT I: Corporate Social Responsibility (18

Hours) This unit introduces the concept of CSR, its relevance and activities. It also provides an overview of the history and growth over the past years.

- Definition, concept, linkages to development
- Growth of CSR-historical; contemporary perspectives, national & international scenario
- Factors influencing growth of CSR in societies- ideological, socio-economic, legal, environmental perspectives
- Theories and principles of CSR
- Corporate governance and CSR
- CSR Strategies-objectives, approaches, roles and tasks of a corporate managers
- Strategic corporate planning - steps to make CSR Work for Business
- Corporate Social Responsibility: programmes and initiatives – national and international

UNIT II: Introduction to Non-governmental Organizations (12

Hours)

This unit introduces the concept and idea of non-governmental organizations, its relevance, and characteristics. It also provides an overview of the evolution NGOs, historical development of voluntary action with respect to the roles played by them within changing development frameworks.

- Meaning of NGO and GO and private sector
- Historical evolution of NGOs, Growth and status of NGOs in India

- Difference between Government Organizations and NGO
- Relationship between NGO, GO and private sector
- Characteristics of good NGO
- Structure, Functions, Classification and Challenges of NGOs
- Contribution and Role of NGOs in Development

UNIT III: Management of Non-governmental Organizations

(15

Hours)

This unit elaborates on the organizational structure and the various aspects of establishing and running an NGO. It focuses on the numerous challenges, problems and issues associated with NGOs. It elucidates about the different managerial strategies of NGOs, through planning, implementing, and monitoring activities strategically.

- Organizational types and structures
- Registration of NGO
- Legal Procedures for Establishment of NGOs
- Overview of Societies Registrations Act, India's Companies Act, Charitable Endowment Act and FCRA, Memorandum of Association and Bye Laws, Tax Relief Under Section 80G
- Management of NGOs
- Communication and Networking in NGOs
- Fundraising and Resource Mobilization

TUTORIAL

(Credits 1; Hours 15)

1. CSR case studies
2. CSR reporting
3. Profiling of NGOs
4. Evaluation of promotional/IEC materials developed by NGOs

Essential Readings

- Chatterji, M. (2014). Corporate Social Responsibility. New Delhi: Oxford University Press.

- Narang R.K. (2009). Corporate Social Responsibility-Replicable Models on Sustainable Development. New Delhi: The Energy and Resources Institute.
- Mandal, B.N (2012). Corporate Social Responsibility in India. Global Vision Publishing House: Delhi.
- Communication, Governance. UK: Cambridge University Press.R. Kumar, S. L. Goel. (2005). Administration and Management of NGOs: Text and Case Studies Paperback. Deep & Deep Publications, India. ISBN 8176296015.
- S. Chandra (2003). Guidelines for NGO Management in India. Kanishka Distributors, New Delhi. ISBN 978-8173916038.
- D. Lewis (2001). Management of Non-Governmental Development Organization. Second Edition, Routledge, New York. ISBN 9780203002162.
- Subedi, N R, (2008). Advocacy Strategies and Approaches: A Training of Trainers Manual. International Centre for Integrated Mountain Development (ICIMOD). ISBN : 9291150830
- Abraham, A. (2003). Formation and Management of NGOs. Third Edition, Universal Law Publishing Co. Pvt Ltd., New Delhi. ISBN 9350350122.

Suggested Readings

- Grayson D., Hodges A. (2004). Corporate Social Responsibility- Seven Steps to Make Corporate Social Responsibility Work For Your Business. UK: Greenleaf Publishing Limited.
- Rasche, A; Morsing, M; Moon, J. (2017). Corporate Social Responsibility: Strategy,
- Sundar, P. (2013). Business and Community: The Story of Corporate Social Responsibility in India. New Delhi, Sage Publication. ISBN 978-81-321-0955-6.
- Agarwal, S.K. (2008). Corporate Social Responsibility in India, Sage publication Pvt. Ltd. <https://doi.org/10.4135/9788132100027>.
- Lewis. D. (2014). Non-governmental Organizations: Management and Development. 3rd Edition. Routledge. ISBN 9781138294097.
- Til, J.V. (1988). Mapping the Third Sector: Voluntarism in a Changing Social Economy. Foundation Centre, New York. ISBN 0879542403.

GENERAL ELECTIVE COURSE
GE HS 044: SOCIAL AND BEHAVIOUR CHANGE: APPROACHES AND STRATEGIES

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
Social and Behaviour Change: Approaches and Strategies	4	3	1	0	Class XII pass	NIL

Learning Objectives

- To understand the concept, approaches and theories of Social and Behaviour Change Communication (BCC).
- To gain insight into the inter-linkages between communication approaches and behaviour change.
- To learn the concepts of SBCC to specific issues such as health and environment.
- To formulate strategies for social and behaviour change communication for diverse social issues.

Learning Outcomes

The students would be able to:

- Understand the concept and approaches of Behaviour Change Communication (BCC).
- Gain insight into the inter-linkages between communication approaches and behaviour change.
- Learn the concepts of SBCC to specific issues such as health and environment.
- Formulate strategies for social and behaviour change communication for diverse social issues.

SYLLABUS

THEORY

(Credits 3; Hours 45)

UNIT I: Concept and approaches to Social and Behaviour Change Communication (SBCC)

(18 Hours)

This unit sets the premise for understanding the concept and relevance of Social and Behavior Change Communication (SBCC). It asserts on the principles and approaches to SBCC. It deeply explores various theories and models of SBCC.

- Concept and relevance of SBCC
- Shift from IEC to BC to SBCC
- Principles of SBCC
- Approaches to SBCC
- SBCC: Theories & Models (Individual level, Interpersonal level, Community level)

UNIT II: Social and Behaviour Change Communication Strategy (10 Hours)

Unit II lays stress on the need and relevance of developing a SBCC strategy by touching on the concepts and steps of SBCC strategy design and implementation.

- Need and relevance of SBCC strategy
- SBCC- Strategy design and implementation.
- Theory of Change
- Steps in SBCC strategy
- Review of SBCC strategies of National Campaigns

UNIT III: Social and Behaviour Change Communication (SBCC) for Health and Environment (17 Hours)

This unit gives an in-depth review of the existing health and environmental situation by understanding the different programmes and strategies in the areas of health and environment SBCC planning. It also appraises the role of media and digital technologies in the domains of health & environment communication respectively.

- Health programmes and strategies
- 7 C's of Health Communication

- Role of media in health promotion
- Digital technologies and mobile based applications in Health
- Environment scenario and ecological issues
- Environment programme and Strategies
- Role of media in promoting sustainable environment
- Digital technologies and mobile based applications in Environment

TUTORIAL

(Credit 1, Hours 15)

1. Analysis of SBCC campaigns from socio-ecological perspective
2. Review of policy initiatives in Health & Environment
3. Evaluation of IEC material of various SBCC campaigns on health and environment

Essential Readings

- Atkin, C.K. & Rice, R.E. (2012) Theory and Principles of Public Campaigns. In C. Atkins & R Rice (EDS) Public Communication Campaigns. Newbury Park, CA: Sage
- Cox, R. (2006) Environmental Communications and the Public Sphere. Thousand Oaks, CA: Sage.
- Subedi, N R, (2008). Advocacy Strategies and Approaches: A Training of Trainers Manual. International

Suggested Readings

- Ashford, J. B., LeCroy, C. W., & Lortie, K.L. (2010). Human Behavior in the Social Environment: A Multidimensional Perspective (4th ed.). Belmont CA: Wadsworth/Thomson Learning.
- Bandura, A. (1995). Exercise of personal and collective efficacy in changing societies. In A. Bandura (Ed.), Self-efficacy in changing societies, pp. 1–45. New York: Cambridge University Press
- Kotler, P. & Lee, N. (2011). Social Marketing: Influencing Behaviours for Good, 4th Ed. Thousand Oaks, CA: Sage Publications. (K&L)

GENERAL ELECTIVE COURSE
GE HS 045: ADVERTISING AND SOCIAL MARKETING

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course title & code	Credits	Credit Distribution of the course			Eligibility criteria	Pre- requisite of the course (if any)
		Lecture	Tutorial	Practical/Prac tice		
Advertising and Social Marketing	4	3	1	0	Class XII pass	NIL

Learning Objectives

- Understand advertising fundamentals, including advertisement classification and agency roles.
- Explore social marketing strategies and media usage for causes.
- Analyze digital ad campaigns and targeting methods.

Learning Outcomes

- Classify ads and explain agency functions.
- Apply social marketing strategies and media for causes.
- Analyze digital ads, identify key elements, and devise targeting strategies.

SYLLABUS

THEORY
(Credits 3; Hours 45)

UNIT I: Foundations of Advertising
Hours)

(15

Unit 1 explores the fundamentals of advertisement. In this unit evolution of advertisements and its classifications are discussed. It also highlights the important role of advertising agencies, significance of appeal factor. It also explains concept of brand analysis and how brands position in market sector. This unit also explains how to layout or design print advertisement.

- Introduction to Advertising
- Classification of Advertisements
- Advertising Agencies: Scope, Types, and Popular Campaigns
- Appeals in Advertising
- Brand Analysis and Positioning
- Print Advertisement Layout

UNIT II: Social Marketing and Digital Advertising

(20

Hours)

This unit elaborate the concept of social marketing with relevant definitions. It also stresses upon the how media is utilized for social causes / purposes. It explains the social marketing mix techniques and role of social advocates. This unit again explains the importance of digital advertising campaign and its analysis and stresses upon formative and evaluative research as well.

- Introduction to Social Marketing
- Usage of Media for Social Causes
- Concept of Social Marketing Mix
- Role of social advocates
- Digital Advertising Campaign Analysis: Elements, Differences from Other Ads, Targeting Mass Audience
- Formative and Evaluative Research in Advertising

UNIT III: Altruistic Marketing and Production

(10

Hours)

This unit elucidates cause related marketing concept definitions and how it is different from social marketing. It highlights the other related marketings as well such as green marketing and sustainable production practices. This unit also explicate the idea of social responsibility, ethical practice of purchasing products and services produced in a way that minimizes social and/or environmental damage. It also signifies community role and participation, impact measurement and global perspectives on altruistic marketing.

- Altruistic or Cause-Related Marketing: Meaning, Difference from Social Marketing
- Principles of Altruism
- Green Marketing, Sustainable Production Practices
- Social Responsibility in Marketing
- Ethical Consumption
- Community Engagement and Collaboration
- Impact Measurement and Reporting
- Global Perspectives on Altruistic Marketing

TUTORIAL

(Credit 1; Hours 15)

1. Advertising Campaign Analysis

Select an advertising campaign from a specific industry (e.g., automotive, fashion, food) and analyze its effectiveness in terms of message delivery, target audience engagement, and brand perception. Provide recommendations for improvement based on your analysis.

2. Brand Positioning Exercise

Choose a local or lesser-known brand and develop a comprehensive brand positioning strategy, including defining the target audience, identifying unique selling propositions, and creating a print advertisement layout. Present your strategy with rationale and design mock-ups.

3. Advertising Agency Evaluation

Research and evaluate two advertising agencies, comparing their scope, services offered, client portfolio, and notable campaigns. Based on your analysis, recommend which agency would be the best fit for a hypothetical client seeking to launch a new product in the market, providing justification for your choice.

Essential Readings

- Jethwaney, J., & Jain, S. (2012). Advertising Management. (2nd ed.). Oxford University Press.
- Advertising and Promotion : An Integrated Marketing Communications Perspective George Belch and Michael Belch, 2015, 10th Edition, McGraw Hill Education

- Lee, N.R., & Kotler, P. (2020). Developing marketing intervention strategies, Chapter 9 - Step 6: Crafting a desired positioning. In Social marketing, behaviour change for good. SAGE Publications Asia-Pacific Pte. Ltd.
- Lee, N.R., & Deshpande, S. (2013). Developing social marketing strategy. In Social marketing in India (pp. 185-308). Sage Publications India Pvt. Ltd.

Suggested Readings

- Arens, W., Weigold, M., & Arens C. (2017). Contemporary Advertising (15th Edition). Hill Higher Education
- Lee, N.R., & Kotler, P. (2019). Social marketing behavior change for social good: Crafting a desired positioning (6th ed.). Sage Publications India Pvt. Ltd.
- Clow, K., & Baack Donald E. (2012), Integrated Advertising, Promotion, and Marketing Communications (5th Ed). Pearson Education Limited 12.

GENERAL ELECTIVE COURSE

GE HS 011: INFORMATION AND COMMUNICATION TECHNOLOGIES FOR DEVELOPMENT

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
Information and Communication Technologies for Development	4	3	1	0	Class XII pass	NIL

Learning Objectives

- To understand the features and characteristics of ICTs.
- To enhance the skills for analyzing and appraising an ICT application.
- To comprehend the design and analysis of ICT tools for development.

Learning Outcomes

- The students will understand the features and characteristics of ICTs.
- Exposure to concept of Networked societies.
- Impact of digitalization and challenges associated with ICTs.
- Appraise the convergence between ICTs and media for development.

SYLLABUS

THEORY

(Credits 3; Hours 45)

UNIT I: Understanding of ICTs and implementations

(15 Hours)

The unit explores the concept, classification, culture, reach and access of ICTs. It elaborates on the evolution of ICTs and focuses on relevance of ICTs in development.

- Introduction to ICTs- Definition, concept, meaning
- Classification of ICTs- Traditional and modern ICTs, their relevance to development
- Second Communication Revolution, Digitalization
- Cultural globalization and ICTs
- Reach and access of ICTs
- Stakeholders in ICT projects and funding patterns
- Law & Policy, Surveillance, Rights and Privacy
- Success stories and case studies of ICT implementation

UNIT II: Dimensions and Domains

(15 Hours)

This unit focuses on learning theories in dissemination of information and speculate the idea of space time and communities in ICTs Perspectives and theories: Technology as Amplifier, Transfer and Diffusion of Technology

- Concept and characteristics of Networked Societies
- Social Structure, Space, Time: Communities and Social Relations

- Disparities and Divides: Digital Divide, Global and National Scenario, Gender and regional difference

UNIT III: ICT Tools in Media

(15 Hours)

The Unit provides an insight into different types of ICTs which can be used as tool for development

- Study, Analysis and design of ICT tools for development
- Radio as an ICT tool for development
- Television as an ICT tool for development
- Social Networking Sites, Multimedia platforms, convergence and Interactivity

TUTORIAL

(Credit 1; Hours 15)

Essential Readings

- Tongia, R., Subrahmanian, E., & Arunachalam, V. (2005). Information and Communications Technology for Sustainable Development. Bangalore: Allied Publishers.
- Unwin, T. (Ed.). (2009). ICT4D: Information and Communication Technology for Development. Cambridge: Cambridge University Press.
- Hassan, R., & Thomas, J. (2006). The New Media Theory. Open University Press.

Suggested Readings

- Buckingham, D. (2008). Youth, Identity, and Digital Media. The John D. and Catherine T. MacArthur Foundation Series on Digital Media and Learning. Cambridge, MA: The MIT Press.
- Jenkins, H. (2006). Convergence Culture: Where Old and New Media Collide. New York, London: New York University Press.
- Marshall, P. D. (2004). New Media Cultures, Information and Communication Technology for Development. Hodder Stoughton Educational.

HOME SCIENCE: FABRIC AND APPAREL SCIENCE

GENERAL ELECTIVE COURSE GE HS 015: TEXTILES FOR INTERIORS

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course Title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical		
Textiles for Interiors	4	3	0	1	Class XII pass	NIL

Learning Objectives

1. To gain knowledge regarding the selection criteria and care of various classes of textiles used in interiors.
2. To understand the latest technological developments, trends and designing interiors using textiles.

Learning Outcomes

1. The student will be able to gain understanding of the various categories of textiles used in interiors.
2. The student will be able to appreciate the relevant selection criteria of textiles for interiors.
3. The student will be able to apply the understanding of forecasting trends in choosing fabrics for designing interiors.

SYLLABUS

THEORY (Credits 3; Hours 45)

Unit I: Introduction to textile categories used in interiors**10 Hours**

In this unit, students will get to know the classification of textiles used in interiors.

- Why “Home Linen”?
- Reasons for growth in demand for textiles for interiors.
- Classification of textiles used for interiors (upholstery fabrics, window textiles, bed textiles, bathroom textiles, kitchen textiles, table linen, floor coverings, outdoor textiles)

Unit II: Functional Parameters for Selection of textiles for interiors**15 Hours**

In this unit, students will gain understanding of the various functional parameters essential for judicious selection of textiles used in interiors.

- Functional Parameters for selection for interiors- (fibre types, standard sizes, construction methods, high-performance materials, finishes imparted, durability)

Unit III: Aesthetic Parameters for Selection of textiles for interiors**10 Hours**

This unit delves into the fundamental elements and principles of design governing design creation for home/interiors textiles

- Aesthetic Parameters for selection for interiors (Latest Interiors fashion forecasts, Elements and Principles of design, Structural and decorative design usage)

Unit IV: Domestic and Export markets**10 Hours**

In this unit, students will get to know about leading players in the sector of textiles for interiors.

- Information regarding national and international brands, designers, outlets, forecasting agencies, fairs and exhibitions catering to textiles for interiors

PRACTICAL
(Credit 1; Hours 30)

Unit I: Market survey, Case Study and Report Presentation of textiles for interiors

- Market survey of different categories of textiles used in interiors (with respect to types, sizes, constructions, price range.)

Unit II: Design portfolio

- Planning fabric decorations for any one selected room, with details of colour, size, decoration, finish.
- Compilation of swatches/ pictures of different materials used for interiors (woven, knit, non-woven, other methods of construction crochet, braiding, nets, laces etc.)

Essential Readings

1. Das, Subrata (2010) Performance of Home Textiles, New Delhi, Woodland Publishing India Pvt Ltd
2. Lebeau, Caroline (2004) Fabrics- the Decorative Art of Textiles, London, Thames and Hudson
3. Seetharaman. P and Pannu, P (2019), Interior Design and Decoration, CBS Publishers & Distributors.
4. Encyclopaedia of Fashion (1980), New York, Prentice Hall

Suggested Readings

1. Deulkar,D (2011) Household Textile & Laundry Work, Atma Ram and Sons.
2. Howes, Karen (1997) Making the Most of Bedrooms, London, Conran Octopus
3. Larsen, Lenor J. (1989), Furnishing Fabrics: An International Source Book, Thames and Hudson
4. Neiswand, Nonie (1998) Bedrooms and Bathrooms, London, Conran Octopus
5. Ranall, Charles T. (2002) Encyclopedia of Window Fashions, California, Randall International
6. Sarkar, S (2009) Interior Design and Decoration, Arise Publishers & Distributors
7. Wingate, Isabel B. (1949) Textile Fabrics and Their Selection, New York, Prentice Hall

<p align="center">GENERAL ELECTIVE COURSE</p> <p align="center">GE HS 016: FASHION: DESIGN AND DEVELOPMENT</p>
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CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

CourseTitle & Code	Cred its	Credit distributionof the course			Eligibility criteria	Pre-requisite of th ecourse (ifany)
		Lecture	Tutorial	Practical		
Fashion: Design and Development	4	3	0	1	Class XII pass	NIL

Learning Objectives

1. To introduce the concept of the business of fashion.
2. To make students aware of the process of fashion forecasting and product and line development.

Learning Outcomes

The students will be able to;

1. Recognize various aspects of the business of fashion.
2. Understand the process of forecasting trends and use it for design development.
3. Understand steps involved in development of product design.
4. To be able to identify steps involved in line development.
5. Develop skills for analysing fashion brands.

SYLLABUS

THEORY
(Credits 3; Hours 45)

Unit I: Nature and Business of Fashion
hours

12

The unit will help students understand the basic terminology of fashion, its principles and importance. It will further help them to gain knowledge about the role of a designer, manufacturer and a retailer in the context of the business of fashion.

- Fashion terminology
- Importance of Fashion
- Principles of Fashion
- Business of Fashion
 - - Designer's role
 - - Manufacturer's role
 - - Retailer's role

Unit II: Fashion Forecasting hours

9

This unit aims to acquaint students about the process of fashion market research and formulating predictions on consumers' future buying habits. Students will be able to understand how fashion forecast services identify the source, trace the evolution, and recognise patterns of trends, and eventually are able to provide designers and brands with a 'vision' of the future.

- Market research
- Forecasting services and resources
- Process of Forecasting

Unit III: Product and Line Development hours

12

This unit will discuss the steps involved in product and design development and explain the advantages and disadvantages of the product development and product sourcing. The unit further aims to provide knowledge about how an apparel line is planned, developed and organized in the business of fashion.

- Process of Product and Design Development
- Line Development
- Organising the Line

Unit IV: Apparel Categories hours

12

This unit explains about the various fabrics used for apparel, clothing categories that exist in the apparel industry, size ranges and price points at which they are offered in the market by the manufacturers.

- Fabrics for apparel
- Clothing categories
- Size ranges and price points

PRACTICAL

(Credit 1; Hours 30)

Unit I:

- Market study on sizing system- choosing any one category of each woman's, men's and kids wear and explore sizing system used by various brands

Unit II:

- Case study on any two domestic apparel brands
- Line concept and Product range offered
- Target Market - Pricing

Essential Readings

1. Fringes, G.S. (1999), Fashion from Concept to Consumer, 6th edition, NJ, Prentice Hall.
2. Keiser, S.J., and Garner, M.B., (2008), The Synergy of Apparel Product Development, II Edition, Fairchild Publications, USA.
3. Stone, E., (2008), The Dynamics of Fashion, III Edition, Fairchild Books, China.
4. Kim, E., Fiore, A.M., Kim, H., 2011, Fashion trend analysis and forecasting, published by Berg, 49-51 Bedford Square, London WC1B 3DP, U.K.

Suggested Readings

1. Jarnow, J. Dickerson Kitty G (1987), Inside the Fashion Business, New Jersey, Merrill, Prentice Hall.
2. Tate, S.L. and Edwards, M.S. (1982) The Complete Book of Fashion Design, New York, Harper & Row Publication
3. Mc. Kelvey, K., Muslow, J., (2008), Fashion Forecasting Wiley Blackwell.

GENERAL ELECTIVE COURSE

GE HS 046: ESSENTIALS OF TEXTILES

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course Title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical		

Essentials of Textiles	4	3	0	1	Class XII pass	NIL
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Learning Objectives

1. To impart knowledge regarding the production, properties and usage of textile fibres and yarns
2. To create awareness regarding various techniques of fabric production and their properties
3. To give an overview of dyeing, printing and finishing of textiles

Learning Outcomes

Students will be able to:

1. Describe textile fibres in terms of their production and properties
2. Understand production techniques and properties of yarns
3. Explain various methods of fabric construction and relate them to specific uses keeping in mind fabric properties
4. Recall various dyeing, printing and finishing techniques

SYLLABUS

THEORY (Credits 3; Hours 45)

UNIT I: Textile Fibres

16 Hours

This unit will focus on a study of textile fibres, their morphology, classification of textile fibres, production, chemistry and properties of selected commercially significant cellulosic, protein and man-made fibres.

- Morphology of textile fibres: Monomer, Polymer, Degree of Polymerization, Crystalline and Amorphous Regions, Polymer orientation
- Primary and secondary properties of fibre-forming polymers
- Fibre classification
- Production, Chemistry, Properties and Usage of selected commercially significant fibres: Cotton, Flax, Silk, Wool, Rayon, Nylon, Polyester and Acrylic

UNIT II: Yarn Manufacturing

8 Hours

This unit will discuss the techniques of yarn production, types of yarns and their properties.

- Yarn construction:

- Mechanical spinning (Cotton system, Wool system, Worsted system)
- Chemical spinning (Wet, Dry, Melt)
- Types of yarns: Staple and Filament yarns, Simple and Complex yarns
- Yarn Properties: Yarn Count, Yarn Twist and Balance

UNIT III: Techniques of Fabric Construction

14 Hours

This unit will apprise the students about different fabric construction techniques. Students will

learn basic principles of weaving, knitting and non-woven fabrics.

- Weaving: Features of a woven fabric, Weaving operation, parts of a loom, Working of a loom, Properties and usage of woven fabrics, Types of weaves- classification, construction, characteristics, usage.
- Knitting: Features of knitted fabric, Warp and weft knits, Structure, properties and usage of knitted fabrics.
- Nonwovens: Features of nonwoven fabrics, Types of nonwovens, Properties and usage of nonwoven fabrics.

UNIT IV: Basics of Wet Processing

7

Hours

This unit will help students gain insight into the fundamentals of textile processing, viz. preparatory processing, dyeing, printing and finishing.

- Preparatory processing of Textiles
- Dyeing: Fundamentals of dyeing, Synthetic and natural dyes.
- Printing: Fundamentals of printing, Popular methods of printing (Block, Screen, Digital).
- Special Purpose finishing: Temporary and permanent finishing, Aesthetic and functional finishes

PRACTICAL **(Credit 1; Hours 30)**

- Fibre Identification: Visual, burning and chemical tests
- Yarn Identification: Simple and complex yarns, Single, ply and cord yarns, textured and untextured yarns, Spun and filament yarns, Monofilament and multifilament yarns.
- Fabric identification: Woven, knitted and nonwoven fabrics
- Thread count and balance of woven fabrics
- Identification of basic weaves

Essential Readings

1. Rastogi, D. & Chopra, S. (Eds.) (2017). *Textile Science*. New Delhi, India: Orient Black Swan Publishing Limited.

2. Rastogi, D, Chopra, S., Arora, C. & Chanchal (Eds.). (2016). *Textile Science-A Practical Manual*. New Delhi, India: Elite Publishing House Private Limited.
3. Sekhri S. (2022). *Textbook of Fabric Science: Fundamentals to Finishing*. IV Edition, Delhi, India: PHI Learning.
4. Joseph, M. L. (1988). *Essentials of Textiles*. (6th Edition). Florida: Holt, Rinehart and Winston Inc.
5. Corbman, P.B. (1983). *Textiles- Fiber to Fabric*. (6th Edition). USA: McGraw Hill.

Suggested Readings

1. Collier B. & Tortora G. Phyllis. (1997). *Understanding Textiles*. USA: Merrill.
2. Hollen, N. and Saddler, J. (1979). *Textile*. New York: Mcmillan.

GENERAL ELECTIVE COURSE

GE HS 047: FUNDAMENTALS OF FASHION AND FABRICS

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical		
Fundamentals of Fashion and Fabrics	4	3	1	-	Class XII pass	NIL

Learning Objectives

1. The Learning Objectives of this course are as follows:
2. To understand the basics of fashion and the fashion industry.
3. To impart knowledge about functions and theories of clothing.
4. To give knowledge regarding the fashion industry, centres and designers
5. To acquaint the students with the commonly used fabrics, their identification and application.

Learning Outcomes

The Learning Outcomes of this course are as follows:

1. Identify the role and functions of clothing and recognize the factors affecting clothing choices.
2. Explain the concept of fashion, its terminology, sources and factors affecting it.
3. Apply the knowledge of elements and principles in design interpretation.
4. Identify and appropriately select commercially available fabrics based on their properties, cost and recommended end uses.

SYLLABUS

THEORY

(Credits 3; Hours 45)

UNIT I: Understanding Fashion

10

Hours

This unit will deal with the basic concepts in understanding fashion, from key terms to the why and how of fashion and more contemporary knowledge of fast and slow fashions.

- Clothing functions and theories of origin
- Individuality and conformity, conspicuous consumption and emulation

- Fashion cycle and Terminology
- Theories of fashion adoption
- Sources of fashion research
- Factors favoring and retarding fashion
- Fast Fashion and Slow Fashion

UNIT II: Design in Garments

10

Hours

This unit orients the student from a design perspective in garments; the various elements that comprise a garment and the various principles that govern and guide in developing a good design.

- Structural and Decorative Design
- Elements of Design- Colour, Line, Texture and Silhouette
- Principles of Design- Balance, Proportion, Emphasis, Rhythm and Unity

UNIT III: Fabrics- Identification, Properties and Application

25

Hours

This unit delves into the world of commonly used fabrics, categorizing them by weight and detailing their properties and applications.

- Cellulosic Fabrics
 - Light-weight fabrics- Mulmul, Voile, Organdy, etc.
 - Medium-weight fabrics- Cambric, Poplin, Seer-sucker, Rubia, Khadi, Flannel Hakoba, etc.
 - Heavy-weight fabrics- Denim, Canvas, Casement, Gabardine, Damask, Corduroy, Velvet, Terry etc.
- Silk and Wool fabrics
 - Light-weight fabrics- Georgette, Chiffon, Organza, Tulle,
 - Medium to Heavy weight fabrics- Flat silk, Crepe De'chine, Satin, Taffeta, Dupion, Shantung, Raw silk, Tussar silk, Matka Silk, Tweed
- Man-made and blended fabrics- Viscose, Modal, Lizzy-Bizzy, Tere-voile, Semi-crepe, Terecot, Lycra, Cotswool etc.
- Knitted Fabrics- Jersey, Pique, Knitted Terry, Velour, Scuba, Fleece etc.
- Factors affecting aesthetics and functionality of fabrics: Fabric weight, Texture/hand, Thread Count, Dimensional stability, Tensile strength, Pilling, Drapeability and Crease recovery.

TUTORIALS **(Credits 1; Hours 15)**

1. Q&A sessions/ Group discussions/ Problem Solving exercises with the students
2. Presentation of project/ research activity by students

- Any other scholastic work related to the application of conceptual understanding of the subject.
- Evaluation and feedback by the teacher.

Essential Readings

- Brown, Patty, Rice J., 2013, 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., 2006, Inside Fashion Design, Harper and Row Publications, New York.
- Pizzoto's J.J. (2015), Fabric Science, 11th Edition, New York: Fairchild Publication.
- Rastogi, D. & Chopra, S. (Eds.) (2017). Textile Science. New Delhi, India: Orient Black Swan Publishing Limited.
- Sekhri S. (2022). Textbook of Fabric Science: Fundamentals to Finishing. 4th edition. Delhi, India: PHI Learning.

Suggested Readings

- Allec C., Johnson I., Joseph P. (2011). Fabric Science (6th Edition). New York: Fairchild Publications.
- Tholia A. (2013) *Understanding Fabrics- A practical Approach*, 2nd edition, Sarv International.
- Tortora (1992) *Understanding Textiles*. 4th Ed., New York Macmillan Publishing Company
- Sekhri S. (2023). *Vastra Vigyan*. Delhi, India: PHI Learning Pvt. Ltd.

GENERIC ELECTIVE COURSE

GE HS 048: PATTERN MAKING AND APPAREL CONSTRUCTION

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
Pattern Making and Apparel Construction	4	2	0	2	Class XII pass	NIL

Learning objectives

1. To develop a level of proficiency in making patterns for simple garments.
2. To be able to independently lay patterns, cut fabric and sew a garment.
3. To teach the students the fundamentals apparel construction.

Learning outcomes

1. Apply the knowledge of fabrics and fabric terminology to follow preparatory steps before garment cutting.
2. Use and apply the concept and techniques of pattern making, laying out and cutting.
3. Judicious application of knowledge for producing quality in patterns, and processes in garment assembly.
4. Use and apply the concept and techniques of various seams and edge finishes.

SYLLABUS

THEORY (Credits 2; Hours 30)

UNIT I: Introduction to pattern making (12 Hours)

Unit Description: This unit will delve into the concept, significance and techniques pattern making, shaping methods and garment components.

Subtopics:

- Body measurements-Importance, body landmarks, procedure of taking body measurements and precautions
- Pattern making- importance, methods and principles, pattern information
- Shaping methods- darts, stylelines, tucks, pleats, gathers etc.
- Garment components- Bodices, Skirts, Necklines, Collars, Sleeves and cuffs, Plackets and fasteners, Yokes, and Pockets

UNIT II: Fabric types and its preparation for garment construction (8 Hours)

Unit Description: This unit provides an insight into the concepts and processes of fabric selection, terms, preparatory steps, fabric layouts, pinning, marking and cutting.

Subtopics:

- Fabric types- weight, width, trade names and fabric terms
- Supporting materials: interfacing, lining, underlining and interlining
- Fabric preparation- preshrinking, straightening and truing
- Types of layouts- lengthwise, partial lengthwise, crosswise, double fold, open, combination fold

- Layouts for special fabrics- Unidirectional, bold and large prints, plaids, stripes and checks
- Pinning, marking and cutting

UNIT III: Sewing Machine Basics and Construction Techniques (10 Hours)

Unit Description: This unit offers information on sewing machines, appropriate stitching guidelines, seams and various additional techniques required for finishing seams and garment edges.

Subtopics:

- Sewing machine and its components, basic operations (upper and lower threading, needle insertion, bobbin winding)
- Types of seams- super-imposed seam, lapped seam, bound seam, flat seam
- Relationship between needle, thread, stitch length and fabric weight
- Additional seam techniques: clipping, notching, trimming and grading of seam allowances, trimming a corner, easing, under stitching, stay stitching
- Different methods of finishing of straight, curved and cornered garment edges

PRACTICAL (Credit 2; 60 Hours)

- Designing and pattern making (using direct method) of one upper garment and one lower garment incorporating darts/dart equivalent, collar, placket, & sleeve
- Construction of upper garment and lower garment designed above
- Finishing of edges using binding/facing, application of fasteners

Essential Readings

- Armstrong, H.J., 2009, *Pattern Making for Fashion Design*, Harper Collins Publishers Inc., New York.
- Liechty, E.G., Potterberg, D.N., Rasband, J.A., 2010, *Fitting and Pattern Alteration: A Multimethod Approach*, Fairchild Publications, New York.
- Stamper, A.A., S. H. Sharp and L.B. Donnell, 1986, *Evaluating Apparel Quality*, Fairchild Publications, America
- Brown, Patty and Rice Janett (1998) *Ready to Wear Apparel Analysis* (2nd Edition), Prentice Hall.

Suggestive readings (if any)

- Jennifer Lynne & Matthews-Fairbanks, 2018, *Pattern Design: Fundamentals*, Fairbanks Publishing LLC.
- Reader's Digest (Eds.). 2002, *New Complete Guide to Sewing*, Reader's Digest Association (Canada) Ltd. Montreal.

GENERAL ELECTIVE COURSE

GE HS 049: APPRECIATION OF TEXTILE CRAFTS

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course Title & Code	Credits	Credit Distribution of the Course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical		
Appreciation of Textile Crafts	4	3	0	1	Class XII pass	NIL

Learning Objectives

1. To create an understanding and appreciation of the various traditional Indian textile crafts such as needle crafts, dyeing and printing techniques, and woven sarees.
2. To impart knowledge about the places/regions in the Country known for different types of textile crafts and also about the traditional skills of the artisans and the tools used by them.

Learning Outcomes

Students will be able to:

1. Identify and describe the origin, history and unique characteristics of the various needle crafts of India.
2. Identify and explain the origin, history, distinctiveness, and speciality of the dyed, painted and printed textiles of India.
3. Identify and discuss the origin, history, special characteristics, and diversity of the different woven saris of India.
4. Identify and explain the origin, history, characteristic features of the shawls and carpets of India.
5. Describe the traditional designs and skills used in the different types of traditional textile crafts.
6. Use various types of traditional needle crafts.

SYLLABUS

THEORY
(Credits 3; Hours 45)

UNIT I: Traditional Needle Craft Techniques

12 Hours

This unit explores traditional needlework methods, including embroidery, emphasizing their historical significance and practical application in textile arts.

- Kashida
- Kasuti
- Kantha
- Chikankari
- Kutch work
- Phulkari and Bagh

UNIT II: Dyed, Painted and Printed Textiles

12 Hours

This unit delves into various techniques of coloring fabrics, such as dyeing, painting, and printing, examining their cultural roots, contemporary uses, and the interplay between artistic expression and textile design.

- Kalamkari
- Bandhani
- Ikat and Patola
- Pichwai
- Ajrakh
- Bagru

UNIT III: Woven Saris of India

13 Hours

This unit will apprise the students about the rich heritage of Indian textile tradition, focusing specifically on the intricate artistry and cultural significance of woven saris, exploring techniques, motifs, regional variations, and historical contexts.

- Banaras Brocade
- Jamdani
- Baluchari
- Paithani
- Chanderi
- Kanjeevaram
- Maheshwari

UNIT IV: Shawls and Carpets of Various Centres

8 Hours

This unit will help students gain insight into the the craftsmanship and cultural significance of shawls and carpets produced in different regions, exploring weaving and knotting techniques, motifs, and historical contexts of these textiles.

- Kashmir shawls
- Kullu shawls
- Woven carpets
- Knotted carpets

PRACTICAL **(Credit 1; Hours 30)**

- Resist dyeing techniques: Bandhej and Leharia
- Embroidery: Traditional hand stitches.
- Printing: Block/Screen printing.
- Product development- Development of bags/pouches/yokes/borders/stole/dupatta/home textiles.
- Visits: Craft fair and museums.

Essential Readings

1. Chattopadhyaya, K.D. (1995). *Handicrafts of India*. New Delhi: Wiley Eastern Limited
2. Das S. (1992). *Fabric Art- Heritage of India*. New Delhi: Abhinav Publications
3. Mathur, A. (2004). *Indian Carpets: A Hand Knotted Heritage*. Rupa & Company.
4. Naik S. (1996). *Traditional Embroideries of India*. New Delhi: A.P.H. Publishing Corporation.

Suggested Readings

1. Crill R., Murphy M. (1991). *Tie-dyed Textiles of India*. London: Victoria and Albert Museum.
2. Desai C. (1988). *Ikat textiles of India*. San Francisco: Chronical Books.
3. Dhamija J. (1989). *Hand-woven fabrics of India*. Ahmedabad: Mapin Publishing Pvt. Ltd.

GENERAL ELECTIVE COURSE

GE HS 050: DYEING, PRINTING AND FINISHING

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course Title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical		
Dyeing, Printing and Finishing	4	3	0	1	Class XII pass	Essentials of Textiles

Learning Objectives

1. To gain knowledge of fundamentals of dyeing and printing on textiles.
2. To analyze the application of different dyes on various textile substrates.
3. To study various kinds of finishing processes on textile fabrics.

Learning Outcomes

Students will be able to:

1. Understand the terminology of dyeing.
2. Identify various types of dyes and for dyeing and printing of fabrics.
3. Describe methods and styles of printing fabrics.
4. Understand concepts of mechanical and chemical finishing of textiles.

SYLLABUS

THEORY (Credits 3; Hours 45)

UNIT I: Dyeing

17

Hours

This unit will explain the terminology of dyeing, classification and chemistry of dyeing.

- Terminology of dyeing
- Classification of dyes
- Chemistry and mode of application of direct, acid, basic, azoic, reactive, sulphur, vat, mordant and disperse dyes
- Principles of colour fastness

UNIT II: Printing

19

Hours

This unit will explain the methods and styles of printing and focus on the fixation of prints.

- Methods of printing
 - Block printing
 - Stencil, screen (flat and rotary) printing
 - Innovative printing methods: etc.
- Styles of printing-direct, discharge, resist, dyed
- Fixation of prints: Ageing, Steaming, Baking,
- Washing of printed goods

UNIT III: Finishing

09

Hours

This unit will focus on finishes and how they affect the appearance and texture of textile substrates.

- Classification of finishes
- Preparatory finishes
- Finishes affecting appearance and texture
- Finishes for enhancing special characteristics

PRACTICAL **(Credit 1; Hours 30)**

- Dyeing
 - On cotton using direct and reactive dyes
 - On wool and silk using acid dye
- Calculation of dye per cent and MLR
- Analysis of dyeing and printing defects
- Finishing of cotton:
- Desizing
- Scouring
- Bleaching
- Visit to dyeing and printing unit

Essential Readings

- Handbook of textile and industrial dyeing, VOL.I: Principles, Processes and types of dyes, Edited by: M.Clark, Woodhead Publishing Limited. Page no. 3-25, 150-182, 207-210
- Rastogi D., and Chopra S., (2017) Textile Science, Orient Blackswan, New Delhi. Page no. 201- 289
- Shenai, V.A. (1987) Chemistry of Dyes and principles of Dyeing Vol II, Bombay, India, Sevak Publications. Page no. 175-563
- Miles L.W.C. (1994), Textile Printing, 2nd edition, England, Society of Dyers and Colourists. Page no. 1-18, 20-43, 275-296

Suggested Readings

- Shenai, V.A. 1976. Technology of Printing. Bombay, Sevak Publication.
- Trotman, E. R. 1984. Dyeing and chemical technology of textile fibres (6th ed.). New Delhi, B. I. Publications Pvt. Ltd.

GENERIC ELECTIVE COURSE

GE HS 051: APPAREL DESIGN AND SELECTION

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course Title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical		
Apparel Design and Selection	4	3	0	1	Class XII pass	Fundamentals of Fabric and Fashion

Learning objectives

1. To introduce the concept of business of fashion.
2. To provide an understanding about process of line development.
3. To teach the students the fundamentals of fit.
4. To develop skills for selecting apparel.

Learning outcomes

The students will be able to:

1. Recognize various aspects of the business of fashion.
2. Identify steps involved in line development.
3. Develop skills for analysing fit.
4. Select appropriate apparel for an individual.

SYLLABUS

THEORY

(Credits 3; Hours 45)

UNIT I: Understanding Nature and Business of Fashion

10 Hours

Unit Description: This unit will help students understand the basic aspects of fashion business. It will further help them to gain knowledge about fashion centres and seasons. Unit also emphasises the role of a designer, a manufacturer and a retailer in the context of the business of fashion. It will also help them to gain knowledge about different stores involved in fashion business.

- Structure and Functioning of Fashion Industry
- Fashion seasons
- Fashion Centres
- Careers in Fashion Industry
- Aspects of Fashion Business: Designing, Manufacturing, Retailing
- Role of Designer, Manufacturer and Retailor
- Different Stores- Department stores, Chain stores, Discount stores, Boutiques, Design studio, Factory outlets

UNIT II: Overview to Apparel Production

10 Hours

This unit aims to provide knowledge about various apparel categories that exist in the apparel industry, size ranges and price points at which they are offered in the market by the manufacturers. Further it will help the students to understand how an apparel line is planned, developed and organized in the business of fashion.

- Apparel Categories: Styles, Sizes (numbered and lettered sizing) and Price points
- Process of Line Development
- Organising the Line

UNIT III: Body types and shapes analysis

5 Hours

This unit will help students to learn the importance of taking body measurements and the correct procedure of taking measurements. They will also gain knowledge about different body types, shapes and sizes. They will develop the skill of identifying body type and shape and design appropriate apparel to suit the body shape.

- Body types, shapes and sizes
- Identifying personal body type and shape
- Designing apparel for different body types and shapes

UNIT IV: Evaluation and Selection of Apparel

20 Hours

This unit aims to provide knowledge to the students about fit in apparel. It will also help them to gain an understanding about factors affecting selection of apparel. They will learn the skills of wardrobe planning, analysis and management as per apparel. Further, it will also enhance their understanding about manufacturers' and consumers' perspective regarding evaluation of apparel quality.

- Evaluation of apparel quality: Manufacturers' and consumers' perspective- appearance, fabric, supporting fabrics, workmanship (construction and finishing), price, fit, care labels
- Fit- Factors affecting fit and recognising correct fit
- Factors affecting selection of apparel
- Wardrobe evaluation, organization, and categorization - lifestyle analysis, existing wardrobe analysis, resource evaluation, purchase planning

PRACTICAL

(Credit 1; Hours 30)

- A survey of any one store (Department stores, Chain stores, Discount stores, Boutiques, Design studio, Factory outlets) and document product range offered for any one category of each women's, men's and kids wear
- Case study on any two domestic apparel brands
 - Line concept and Product range offered
 - Sizing system used and size range offered
 - Price points
- Figure analysis and design suggestions for different occasions for self

Essential Readings

1. Brown, Patty and Rice Janett. (2013). Ready to Wear Apparel Analysis. 4th Edition. Prentice Hall.
2. Constantine, S. & Woodall, T. (2007). The Body Shape Bible: Forget Your Size Discover Your Shape Transform Yourself, Weidenfeld & Nicolson.
3. Frings, Stephens, G. (2007). Fashion: From Concept to Consumer. 9th Edition. Pearson Education. India.
4. Marshall, S. G. (2000). Individuality in Clothing Selection and Personal Appearance. Prentice Hall.
5. Rasband, J. (2001). Wardrobe Strategies for Women. Fairchild Books. Bloomsbury Publishing.
6. Stamper, A.A., S. H. Sharp and L.B. Donnell. (1991). Evaluating Apparel Quality. 2nd Edition. Fairchild Publications. America.

Suggested Readings

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

2. Keiser, S.J., and Garner, M.B. (2008). The Synergy of Apparel Product Development. 2nd Edition. Fairchild Publications. USA.
3. Liechty, E.G., Potterberg, D.N., Rasband, J.A. (2010). Fitting and Pattern Alteration: A Multimethod Approach. Fairchild Publications. New York.
4. Romano, C. (2002). Plan your Wardrobe. New Holland Publishers.
5. Tate S.L., Edwards M.S., (1982). The Complete Book of Fashion Design. Harper and Row Publications. New York.

GENERAL ELECTIVE COURSE

GE HS 052: FASHION MARKETING AND MERCHANDISING

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
Fashion Marketing and Merchandising	4	3	1	0	Class XII pass	NIL

Learning Objectives

The course aims to

1. To explore the fundamental concepts of Fashion and Marketing
2. To analyze application of marketing concepts in the fashion industry
3. To facilitate understanding of the concepts of Merchandising
4. It provides a comprehensive insight into the principles of merchandise management, assortment planning and various related components.

Learning Outcomes

Students will be able to

1. Understand the dynamics of fashion market environment
2. Apply concepts of marketing mix in the fashion industry
3. Understand consumer market segments
4. Undertake market and trend research
5. Comprehend and apply Knowledge of merchandising activities

SYLLABUS

THEORY **(Credits 3; Hours 45)**

UNIT I : Fundamentals of Fashion Marketing **15**

Hours

- Marketing Environment
- Marketing mix - Product, Price, Place, Promotion

UNIT II : Market Segmentation and Targeting **12**

Hours

- Consumer Buying Behavior

UNIT IV: Fashion Merchandising **12**

Hours

- Concept of Merchandising
- Merchandise Category-Staple, Fashion & Seasonal
- GMROI
- Assortment Planning
- Inventory Management

UNIT V: Visual Merchandising **6**

Hours

- Store design elements: Store Layouts
- Feature areas and fixtures
- Signage and graphics
- Store atmosphere

TUTORIAL **(Credits 1; Hours 15)**

1. Q&A sessions/ Group discussions/ Problem Solving exercises with the students
2. Presentation of project/ research activity by students
3. Any other scholastic work related to the application of conceptual understanding of the subject.
4. Evaluation and feedback by the teacher.

Essential Readings

- Kotler, P., Keller, K.L., Koshy, A. and Jha, M. (2012) *Marketing Management* 14th ed.: Pearson.
- Merchandise Buying & Management, John Donnellan, 2001, Fairchild Books
- Levy, M., Weitz, B.A. and Pandit, A. (2008) *Retailing Management*, Delhi: Tata McGraw Hill Education Private Limited
- Kitty G. Dickerson, Inside the Fashion Business, 7th Edition, 2003 Prentice Hall 3.
Elaine Stone, The Dynamics of Fashion, 2004, Fairchild.
- Jay Diamond; Ellen Diamond, The World of Fashion, 2007, Fairchild...

Suggested Readings

- Kunz, I. and Grace 3rd ed. (2009) *Merchandising*, New York: Fairchild publications, Inc.
- Pegler, M. (2006) *Visual Merchandising and Display*, New York: Fairchild Publications Inc.
- Posner, H. (2015). *Marketing Fashion – Strategy, Branding and promotion*, 2nd ed., Laurence King Publishing.
- Gini Stephens Frings, Fashion from Concepts to Consumer, 1982, Prentice Hall.
- Tony Hines, Fashion Marketing, 2006, Butter Worth – Heinemann.
- Rosemary Varley, Retail Product Management : Buying and Merchandising, 2005, Routledge
- John Giacobello, Careers in fashion Industry, 2000, Rosel Pub. Group

GENERIC ELECTIVE COURSE
GE HS 053: TECHNICAL TEXTILES

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course Title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
Technical Textiles	4	3	1	0	Class XII pass	Essentials of Textiles

Learning Objectives

The course aims to:

1. Introduce technical textiles and their specialities
2. Explore how technical textiles are used in everyday life, like in sports, home products, healthcare, and transportation.
3. Learn how technical textiles make things better and more efficient in different industries.
4. Gain the skills to choose and use technical textiles for specific needs in different areas.

Learning Outcomes

Students will be able to:

1. Understand the properties and performance of a range of technical textiles.
2. Analyze appropriate uses for a variety of fibres, yarns and fabrics in various areas.
3. Generate and develop creative ideas for the use of technical textiles.

SYLLABUS

THEORY
(Credits 3; Hours 45)

UNIT I: An Overview of Technical Textiles

15

Hours

This unit provides a broad understanding of technical textiles, explaining their unique features and applications across various industries.

- Definition and Scope
- Application areas
- Fibers, yarns and fabrics for technical textiles
- Textile-reinforced composite materials

UNIT II: Technical Textile Sectors: Textile Structures, Requirements and End Uses 30 Hours

This unit explores the different sectors of technical textiles, focusing on the structures, specific requirements, and ultimate uses within each sector.

- Industrial textiles
- Geotextiles
- Medical and healthcare textiles
- Agricultural textiles
- Protective textiles
- Automotive textiles
- Textiles for defence
- Sportswear
- Home textiles
- Filtration textiles

TUTORIAL (Credits 1; Hours 15)

1. Q&A sessions/ Group discussions/ Problem Solving exercises with the students
2. Presentation of project/ research activity by students
3. Any other scholastic work related to the application of conceptual understanding of the subject.
4. Evaluation and feedback by the teacher.

Essential Readings

- Anand, S.C., Kennedy, J F., Mirafat, M., and Rajendran, S. (2005) *Medical Textiles and Biomaterials for Healthcare*, Woodhead Publishing Series in Textiles.
- Bartels, V. (2011) *Handbook of Medical Textiles*, 1st Edition, Woodhead Publishing Series in Textiles.
- Bunsell, A. R. (2009) *Handbook of Tensile Properties of Textile and Technical Fibres*, 1st Edition, Woodhead Publishing Series in Textiles.

- Chapman, R. (2012) *Smart Textiles for Protection*, Woodhead Publishing Series in Textiles.
- Horrocks, R. and Anand, S. C. (2015) *Handbook of Technical Textiles*, second edition, volume 1: technical textile processes, The Textile Institute, Woodhead Publishing.

Suggested Readings

- Horrocks, R. and Anand, S. C. (2016) *Handbook of Technical Textiles*, second edition, volume 2: technical textile applications, The Textile Institute, Woodhead Publishing.
- Langenhove, L.V. (2007) *Smart Textiles for Medicine and Healthcare: Materials, Systems and Applications*, Woodhead Publishing Series in Textiles, 1st Edition.
- Tao, X. (2001) *Smart Fibres, Fabrics and Clothing: Fundamentals and Applications*, Woodhead Publishing Series in Textiles.

HOME SCIENCE: RESOURCE MANAGEMENT & DESIGN APPLICATION

GENERIC ELECTIVE COURSE

GE HS 054: ESSENTIALS OF RESOURCE MANAGEMENT

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course and Title code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-requisite of the Course
		Lecture	Tutorial	Practical/ Practice		
Essentials of Resource Management	4	3	0	1	Class XII pass	NIL

Learning Objectives

1. To enable students to understand the fundamentals of resource management in changing scenario and available resources, their uses and conservation.
2. To understand the processes of management in a scientific manner for the judicious use of resources.

Learning Outcomes

Students will be able to :

1. Comprehend the fundamentals of resource management in the changing scenario.
2. Familiarize with the available resources, their uses and conservation.
3. Utilize resources optimally in a prudent manner.

4. Understand the processes of management in a scientific manner for the use of resources.

SYLLABUS

THEORY **(Credits 3; Hours 45)**

UNIT I: Introduction to management **10 Hours**

The focus of this unit would be on understanding the concept of management, scope and approaches of management in context to changing scenario.

- Concept, nature, universality and scope of management
- Theories and Approaches to management.
- Ethics in management
- Motivation in management- concept, factors affecting motivation- values, goals and standards, Role of Maslow's Hierarchy of Needs in motivation

UNIT II: Understanding resources **10 Hours**

This unit attempts to acquaint the students with the available resources, their uses and conservation approaches.

- Meaning, classification and characteristics of resources.
- Resource conservation- maximizing use of resources, factors affecting utilization of resources.
- Family life cycle in context to resource use: time, energy, money.

UNIT III: Functions of management: an overview **15 Hours**

This unit will orient the students in understanding the functions and processes of management in a scientific manner for the optimization of resources.

- Decision Making: Concept, significance and steps involved in decision-making process.
- Planning: Nature and characteristics, classification of plans & steps in planning.
- Organizing: Concept, significance and steps involved in organizing process.
- Supervision: Types of supervision (directing & guiding), factors of effective supervision.
- Controlling: Types of control, steps in controlling, requirements of effective control.
- Evaluation: Types and steps of evaluation.

UNIT IV: Management of time and energy resources **10 Hours**

This unit will familiarize students with effective management of time and energy resources and their functional use in day-to-day life.

- Time Management: Concept, tools of time management, types of time plans, steps in making a time plan.
- Energy Management: Concept, principles of body mechanics, types of fatigue.
- Work Simplification: Techniques, Classes of Change.

PRACTICAL **(Credit 1; Hours 30)**

UNIT I: Identification and Development of managerial competencies

Activities:

- Micro Lab and Who am I
- SWOC analysis

- Self
- Case studies: Individuals
- Case studies: Organizations
- Building Decision making abilities
- Team building management games
- Decision Making: Case Analysis

UNIT II: Management of Time and Energy

Activities:

- Time Management:
 - Evaluation of time plans through case analysis
 - Analysis of time use pattern of self
 - Preparation and evaluation of time plans
- Work improvement using time and motion study techniques
 - pathway chart or travel chart / process chart - observe, record, and analyze an existing activity and activity with improvement .

Essential Readings

1. Combe, C. (2014). Introduction to management. Oxford University Press.
2. Drucker, P. F. (2007). Management: Tasks, responsibilities, practices. Transaction Pub, ISBN-13: 978-0750643894.
3. Goel, S. Ed. (2016). Management of resources for sustainable development. New Delhi: Orient Blackswan Pvt. Ltd, ISBN: 9788125063490, 9788125063490.
4. Griffin, R. W. (2013). Management: Principles and practices (11th ed.). South-Western Cengage Learning, ISBN: 9788131530917, 8131530914.
5. Hill, C. W., & Stevenane. (2006). Principles of management (1st ed.). McGrawHill/Irwin. ISBN: 9780073530123.
6. Koontz, H., & O' Donnel, C. (2005). Management: A systems and contingency analysis of managerial functions. New York: McGraw-Hill Book Company, ISBN-13: 978-0070853775.
7. Moore, T. J. (2021). Family resource management (4th ed.). ISBN-13: 978-1544370620.
8. Rao, V.S.P. (2008). Principles & practice of management. Konark Publishers Pvt. Ltd, ISBN-13: 978-8122000283.

For Practicals

1. Goel, S. Ed. (2016). Management of resources for sustainable development. New Delhi: Orient Blackswan Pvt. Ltd, ISBN: 9788125063490, 9788125063490.
2. Arora, R., Magu, P., Singh, P., Meghna, Gupta, S. (2013). Resource Management: An Introductory Manual. R. Gangadharan of Elite Publishing House Pvt. Ltd., Daryaganj, ISBN No: 978-81-88-901-50-0.
3. Drucker, P. F. (2007). Management: Tasks, responsibilities, practices. Transaction Pub, ISBN-13: 978-0750643894

Suggested Readings

1. Jyoti, A. (2009). Principles of management. Gennext Publication. ISBN-13: 9789380222127.
2. Kreitner, R. (2009). Management. Canada: Houghton Mifflin Harcourt Publishing Company.

3. Nickel, D. (2002). Management in family living, 4e (4th ed.), ISBN-13: 978-8123908519.
4. Robbin, S.P. (2009). Fundamentals of management, 11th edition, Pearson Education.
5. Steidl, R. & Bratton, E. (1968). Work in the Home. USA: John Wiley & Sons, Inc, ISBN-13: 9780471820857.

GENERIC ELECTIVE COURSE

GE HS 055: CONSUMER STUDIES AND PERSONAL FINANCE

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course and Title code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-requisite of the Course
		Lecture	Tutorial	Practical/ Practice		
Consumer Studies and Personal Finance	4	3	0	1	Class XII pass	NIL

Learning Objectives

1. To provide students an understanding of income, saving and investment management in the changing socio-economic environment
2. To acquaint students with the concept of consumers' role in an economy, consumer problems, education, consumer aids and empowerment
3. To comprehend issues related to consumer protection, legislative measures and redressal mechanisms

Learning outcomes

After completing the course, students will be able to:

1. Acquire knowledge of income, saving and investment management in the changing socio-economic environment.
2. Develop an understanding about the issues related to consumer protection, legislative measures and redressal mechanisms.
3. Gain conceptual knowledge of critically evaluating and designing various consumer aids and about consumer education and protection.

4. Learn to undertake food adulteration tests through lab analysis.
5. Understand the schemes and services offered by banks and post offices.

SYLLABUS

THEORY (Credits 3; Hours 45)

UNIT I: Income and Expenditure

15 hours

The unit focuses on developing the fundamental concepts of income, savings and investment management and its applicability in changing socio-economic environment.

- Household Income – Types, Sources, Supplementation of family income
- Income management – significance of budgeting, steps of making a budget, household accounts
- Factors influencing expenditure pattern
- Family savings and investments- need, principles, channels of investment, tax implications
- Consumer credit

UNIT II: Consumer in India: Consumer problems and education

12 hours

This unit attempts to acquaint the students with an understanding of the consumer problems, role of consumer education and empowerment in today's context.

- Definition of a consumer
- Role of consumers in the economy
- Types of consumer problems – products and service related, causes and remedies
- Guidelines for wise buying practices
- Consumer education and empowerment, sustainable consumption
- Changing nature of the business world –e-commerce, e-business

UNIT III: Consumer Protection

9 hours

This unit will orient the students to the need for consumer protection, and rights and responsibilities available for safeguarding consumers' interest.

- Consumer protection
- Consumer rights and responsibilities
- Consumer organizations and their role in consumer protection

Unit IV: Legislative framework for consumer protection

9 hours

This unit focuses on the legislative framework, acts and redressal mechanisms available for consumer protection.

- Basic legislative framework for consumer protection in India
- Consumer Protection Act (COPRA) and its amendment
- Alternative redressal mechanisms
- Standardization and quality control measures

PRACTICAL

(Credit 1; Hours 30)

- Understanding and designing standardization marks.
- Evaluation and designing of informative and attractive labels for different types of products.
- Evaluation and designing of advertisements for print media including products, services and social ads.
- Case study of banks and post offices to understand their services and products.
- Learning to fill different bank forms.
- Analysis of consumer redressal through case study approach.
- Food adulteration tests.

Essential Readings

1. Kotler, P.T., Armstrong, G., Agnihotri, P. (2018). *Principles of Marketing: Basic concepts of marketing*. Pearson Education. ISBN 13: 978-9352865611.
2. Maheswaran, D. (2019). *Understanding Indian Consumers*. 1st Edition. Oxford University Press. ISBN 13: 978-0199479627.
3. Mital M., Jain, S., & Mehta, C. (2015). *Family finance and Consumer Studies: A Practical Manual, Second Edition*. New Delhi: Elite Publishing House Pvt. Ltd.
4. Mital, M., Sawhney, H. K. (2015). *Family Finance and Consumer Studies*. New Delhi: Elite Publishing House Pvt. Ltd.
5. Rajni. (2020). *Personal Finance and Planning*. JSR Publishing House LLP.
6. Seetharaman, P. and Sethi, M. (2001). *Consumerism: Strength and Tactics*. New Delhi: CBS Publishers.

Suggested Readings

1. Arora, R. (2005). *Consumer Grievances Redressal*. New Delhi: Manak Publications.
2. Khanna, S. R., Hanspal S., Kapoor S. & Awasthi H.K. (2007). *Consumer Affairs*. Universities Press India Pvt. Ltd.

GENERAL ELECTIVE COURSE

GE HS 056: ESSENTIALS OF HUMAN RESOURCE MANAGEMENT

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course and Title code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-requisite of the Course
		Lecture	Tutorial	Practical/ Practice		
Essentials of Human Resource Management	4	3	0	1	Class XII pass	NIL

Learning objectives

1. To familiarise the students with the importance of human resources and their effective management in organisations.
2. To comprehend functions of human resource management.
3. To sensitize students towards the recent practices and emerging trends in the field of human resource management to meet the changes of work environment.

Learning outcomes

After completing the course, students will be able to :

1. Develop an understanding about the discipline of human resource management.
2. Acquire knowledge about the functions and practices of human resource management.
3. Gain insight into emerging trends and modern practices in the field of human resource management.

SYLLABUS

THEORY (Credit 3; Hours 45)

UNIT I: Human Resources Management

10 hours

The focus of this unit would be on developing the essential concepts of human resource management and its applicability in changing work environment.

- Concept, functions, roles, skills and competencies

- Changing environment of HRM- Globalization, corporate downsizing, cultural environment, work force diversity, changing skill requirement, technological changes, restructuring and rightsizing.
- HRM support for improvement programs -reengineering processes, contingent workforce, decentralized work sites.

UNIT II: Functions of HRM

15 hours

This unit attempts to acquaint the students in understanding the functions of human resource management.

- Manpower planning
- Job Analysis – job description and job specification
- Recruitment and selection
- Placement and Induction
- Performance appraisal and management
- Compensation and Benefits
- Training and Development
- Motivation

UNIT III: Human Resources Audit

12 hours

This unit will assist students to gain insights about the components of HR system used in an organization for auditing purposes to check its effectiveness.

- Concept, significance, components and process
- HRM as a strategic partner
- Work life balance.

UNIT IV: Industrial Relations

8 hours

This unit will help students in comprehending the significance of HR in managing industrial relationships.

- Introduction to Industrial Relations and Industrial disputes
- Employee grievances and Discipline
- Collective bargaining

PRACTICAL

(Credit 1; Hours 30)

- Analysis of human resource management environment and HR audit in an organization through case-studies.
- Functions of HRM: Simulations and Case-studies
 - Human Resource Planning
 - Job Analysis: job description and job specification and Design (levels)
 - Recruitment, selection, and placement strategies
 - HRD
 - Performance appraisal and management (methods)

Essential Readings

1. Aswathappa K. and Dash S. (2023). Human Resource Management Text and Cases (10th Ed.) McGraw Hill Education India.
2. Rao, V.S.P. (2023). Human Resource Management, 3rd Edition, Taxmann.
3. Dessler G. and Varkkey B. (2022). Human Resource Management (17th Ed.), Pearson India Education Services Pvt. Ltd, New Delhi.
4. Decenzo, D. A., & Robbins, S. P. (2011). Fundamentals of Human Resource Management. India: Wiley.

Suggested Readings

1. Subbaroo, R. (2023). Personnel and HRM – Text and Cases (5th Edition), Himalaya Publishing House Private Limited, New Delhi.
2. Noe, R.A., Hollenbeck, Gerhart and Wright (2012). Fundamentals of Human Resource Management, 3rd Edition, McGrawHill Education Ltd.
3. Ivanecevich, J.M.(2010). Human Resource Management, 10th Edition, Tata McGraw Hill Education Pvt. Ltd.
4. Vance, C.M. and Paik, Y. (2009). Managing a Global Workforce: Challenges and Opportunities in International Human Resource Management, PHI Learning.

**GENERAL ELECTIVE COURSE
GE HS 057: SUSTAINABILITY AND SPACE DESIGN**

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course and Title Code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-requisite of the Course (if any)
		Lecture	Tutorial	Practical/ Practice		
Sustainability and Space Design	4	3	0	1	Class XII pass	NIL

Learning Objectives

1. To understand the fundamentals of space planning.
2. To acquire knowledge regarding materials, building construction techniques and technologies.
3. To comprehend sustainable parameters in space design.

Learning Outcomes

1. Comprehend the concept of design applicable to interior spaces.
2. Understand the application of materials and finishes to create aesthetic and sustainable interiors.
3. Comprehend the concept of sustainability and green rating systems.

SYLLABUS

THEORY (Credit 3; Hours 45)

CONTENTS

Total Lectures: 45 hours

UNIT I: Basic Concepts in Space Planning

15 hours

This unit will acquaint students with an understanding of the basic concepts of space planning.

- Concept of space as a resource
- Characteristics of space
- Principles of planning spaces
- Zoning
- Types of houses: Independent houses and Apartments.
- Contemporary Housing - Service Apartments, Senior living.
- Building bye-laws – NBC and MPD

UNIT II: Construction Features in Building Design

20 hours

The focus of this unit would be on developing an understanding of the concepts related to the construction features in building design.

- Site selection
- Conventional and Non-Conventional building materials, sustainable building materials
 - Structural components of a building (Material and Types) –Foundation, Walls, Flooring, Roofs, Doors and Windows, Staircase.
- Basic building services
- Landscaping
- Earthquake resistant structures
- Home Automation

UNIT III: Sustainable built environment

10 hours

The focus of this unit would be to acquaint students with the concept of green building and green building rating systems.

- Introduction to sustainable built environment
- Green building rating guidelines in India – GRIHA and LEED
- Concept of Smart Cities

PRACTICAL **(Credit 1; Hours 30)**

UNIT I: Introduction to Space Designing

- Common building terminologies,
- Concept of Scale
- Building constructions symbols
- Furniture Symbols
- Identification and characteristics of different building materials

UNIT II: Evaluation and Preparation of House Plans

- Evaluation of 2-3 simple residential floor plans on the basis of principles of space planning
- Preparation of floor plans of Multipurpose room/ studio apartment (Computer aided manual)

UNIT III: Sustainable built environment

- Case study of a Green Building

Essential Readings

1. Goel S., Seetharaman P. Kakkar, A. (2015). *Manual on Interior space designing*, Elite publishers.
2. Goldstein, H. & Goldstein, V. (1988). *Art in Everyday Life (4th ed.)*, Oxford & IBH Publishing Co.
3. Indian Green Building Council. (2022). *Introduction to Green Buildings and Built Environment*, BSP Books.
4. Kumar, S. (2008). *Building Construction*, Standard Publisher.
5. Rao, M.P. (2020). *Interior Design Principles and Practices*, Standard Publishers Distribution.

Suggested Readings

1. Duggal S.K. (2017). *Building Materials*. CRC Press.
2. Green Rating for Integrated Habitat Assessment (GRIHA). (2021). *GRIHA Manuals*, GRIHA Council.
3. Grimley, C. and Love, M. (2018). *The Interior Design Reference & Specification Book*, Rockport Publishers.
4. Indian Green Building Council. (2021). *IGBC Manuals*, IGBC.
5. Iyer, G. H. (2022). *Green Building Fundamentals*, Notion Press.
6. Mitton, M. and Nystuen, C. (2021). *Residential Interior Design: A Guide to Planning Spaces (4th ed.)*, Wiley.
7. Singh, G. (2019). *Building Construction and Materials*, Standard Publishers.

GENERIC ELECTIVE COURSE
**GE HS 058: RESOURCE MANAGEMENT FOR SUSTAINABLE
DEVELOPMENT**

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course and Title code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-requisite of the Course
		Lecture	Tutorial	Practical/ Practice		
Resource Management for Sustainable Development	4	3	0	1	Class XII pass	NIL

Learning Objectives

1. To build an inter-disciplinary perspective on understanding environmental concerns, sustainable development and its challenges
2. To familiarize students with current debates and perspectives with respect to sustainable development
3. To familiarize students with the concepts of sustainable resource management
4. To develop skills and competencies amongst students with regard to energy, water and waste management

Learning Outcomes

After completing the course, students will be able to:

1. Build an understanding of environmental concerns, sustainable development and its challenges
2. Understand the concept of resources and developmental issues with respect to sustainable development
3. Develop skills in sustainable resource management

SYLLABUS

THEORY
(Credits 3; Hours 45)

UNIT I: Introduction to Sustainable Development
hours**10**

The unit focuses on developing the fundamental concept of sustainable development, its need, objectives and initiatives towards sustainable development.

- Concept of sustainable development
- Need, objectives and principles of sustainable development
- National and international milestones, initiatives, summits and protocols
- Sustainable Development Goals (SDGs)

UNIT II: Resources and Developmental Issues
hours**15**

This unit attempts to acquaint the students with an understanding of the environmental concerns and need for management of key resources.

- Environmental concerns, population explosion, urbanization, globalization, economic development, ecological footprint, carbon footprint
- Perspectives in resource consumption
- Sustainable management of key resources: Land, green cover, water, air, waste
- Sustainable practices by industry, CSR initiatives
- Green buildings and green building rating systems

UNIT III: Sustainable Resource Management I
hours**10**

This unit focuses on the sustainable management of energy and water and industry initiatives towards sustainable development.

- Energy management – star labelling, energy auditing, renewable energy
- Water management – Rain water harvesting- Calculation of rainwater harvesting potential, water auditing, waste water recycling, water testing

UNIT IV: Sustainable Resource Management II
hours**10**

This unit focuses on the sustainable management of waste and air and industry initiatives towards sustainable development.

- Waste management – Waste to energy plants, waste to wealth
- Air management – Air quality, AQI

PRACTICAL
(Credit 1; Hours 30)

UNIT I: SUSTAINABLE DEVELOPMENT INITIATIVES

- Case studies on sustainable initiatives/CSR initiatives by industry
- Creation of awareness generation material for issues related to sustainable development
- Organizing events/competitions to commemorate important environment related days/ Current issues related to environment and sustainable development
- Calculation of ecological and carbon footprint using various applications and websites
- Case studies on green buildings

UNIT II: SUSTAINABLE RESOURCE MANAGEMENT: ENERGY, AIR, WATER AND WASTE

- Understanding electricity bills: components and calculations
- Understanding BEE star labels as an initiative towards sustainable energy consumption
- Energy auditing for sustainable energy management
- Portfolio/Survey on renewable energy products available in the market
- Composting for sustainable waste management
- Case studies on waste management
- Air/noise/water testing, AQI applications and websites
- Green modes of transportation, E-vehicles: components and calculations

Essential Readings

1. Thakur, B., Thakur, R. R., Chattopadhyay, S., & Abhay, R. K. (Eds.). (2023). *Resource Management, Sustainable Development and Governance: India and International Perspectives*. Springer.
2. Prasad, R., Jhariya, M. K., & Banerjee, A. (2021). *Advances in Sustainable Development and Management of Environmental and Natural Resources: Economic Outlook and Opinions*. CRC Press, Taylor & Francis Group.
3. Goel, S. (Ed.). (2016). *Management of Resources for Sustainable Development*. New Delhi: Blackswan Publications.
4. Somayaji, G., & Somayaji, S. (2009). *Environmental concerns and sustainable development: some perspectives from India*. New Delhi: TERI Publication.
5. Sundar, I. (2006). *Environment and Sustainable Development*. New Delhi: APH Publishing Corporation.

Suggested Readings

1. Patel, B. N., & Nagar, R. (2018). *Sustainable Development and India*. Oxford University Press India.
2. Filho, W. L., Rogers, J., & Raniga, U. I. (Eds.). (2018). *Sustainable Development Research in the Asia-Pacific Region: Education, Cities, Infrastructure and Buildings (World Sustainability Series)*. Springer.
3. UN Millennium Project. (2005). *Innovation: Applying Knowledge in Development*. Science, Technology and Innovation Task Force Report.

4. World Bank. (2006). *Enhancing Agricultural Innovation: How to go beyond the strengthening of research systems*. World Bank: Agriculture and Rural Development

**GENERAL ELECTIVE COURSE
GE HS 059: INTERIOR DESIGN AND DECORATION**

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course and Title Code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-requisite of the Course (if any)
		Lecture	Tutorial	Practical/ Practice		
Interior Design and Decoration	4	3	0	1	Class XII pass	NIL

Learning Objectives

- 1.To comprehend the concept of design as applicable to interior spaces.
- 2.To develop proficiency in making working and presentation drawings to be used by interior space design professional.
- 3.To understand the application of materials and finishes for creating aesthetic and sustainable interiors.

Learning Outcomes

After completing this course, students will be able to:

- 1.Understand the components of interior design.
- 2.Prepare working and presentation drawings for interiors.
- 3.Critically evaluate different types of materials and finishes for designing interior spaces.

SYLLABUS

**THEORY
(Credits 3; Hours 45)**

UNIT I: Design Fundamental

8 hours

The unit focuses on developing the fundamental concept of design.

- Design
 - Definition
 - Concept
 - Objectives of Design
 - Scope (Inclusive Design, Designing for circular future, Innovative Designs)
- Importance and requirement of good design
- Concept and scope of Interior Design
- Role of an Interior Designer
- Classification of Design: Structural & Decorative

UNIT II: Concept of Interior Design

25 hours

This unit will acquaint students with the concept of interior design and its various components.

- Elements and Principles of Interior Design.
- Concept of Colour in Interior Design - Colour Theories, Colour Psychology, Colour Schemes, Colour Forecasting
- Energy Efficient Lighting Systems.
- Furniture - Types, Selection criteria, Arrangement
- Furnishings - Home Furnishing, Window treatment, Floor Coverings
- Wall treatment
- Use of sustainable material in interior design

UNIT III: Historical and Contemporary Trends in Interior Design

12 hours

This unit focuses on building a perspective regarding evolution of different trends in interior design.

- History of Architectural Design
- Historical and Contemporary Design Styles
- Vernacular Architecture
- Recent trends in design: Bio-Mimicry, Bio-philic

PRACTICAL

(Credit 1; Hours 30)

UNIT I: Basic Drawing Techniques

- Material required for drawing
- Concept of Scale
- Lettering
- Drawing of simple shapes-2D & 3D
- Drawing and identification of common symbols

UNIT II: Preparation of plans

- Concept Sheets and Mood Boards
- Preparation of floor plans of Bedroom, Multipurpose Room (CAD/Manual drawing)
- Rendering of Plans
- Preparation of Elevations
- Preparation of Furnishing Plans

UNIT III: Project / Portfolio

- Innovative designs, materials and technologies for Interiors

Essential Readings

1. Faulkner, S. & Faulkner, R. (1954). *Inside Today's Home*, Rinehart Publishing Company.
2. Goldstein, H. and Goldstein, V. (1988). *Art in Everyday Life* (4th. ed), Oxford: IBH Publishing Co.
3. Grimley, C. and Love, M. (2018). *The Interior Design Reference & Specification Book*, Rockport Publishers.
4. Mitton, M. and Nystuen, C. (2021). *Residential Interior Design: A Guide to Planning Spaces* (4th. ed), Wiley
5. Rao, M.P. (2020). *Interior Design Principles and Practices*, Standard Publishers Distribution.

Suggested Readings

1. Lawrence M. (1987). *Interior Decoration*, Chartwell Books.
2. Mogg, C. C. (1995). *The Complete Home Decorator*, Portland House.
3. Riley & Bayen. (2003). *The Elements of Design*, Free Press.
4. Seetharaman P. and Pannu, P. (2001). *Interior Design & Decoration*, CBS publishers.
5. Thompson, J. A. A. and Blossom, N. (Ed). (2015), *The Handbook of Interior Design*, Wiley.

GENERAL ELECTIVE COURSE GE HS 060: FUNDAMENTALS OF ERGONOMIC DESIGN

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course and Title Code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-requisite of the Course (if any)
		Lecture	Tutorial	Practical/ Practice		
Fundamentals of Ergonomic Design	4	3	0	1	Class XII pass	NIL

Learning Objectives

1. To sensitize the students towards the importance of ergonomics and its application in daily life
2. To understand components of workers input
3. To develop understanding of functional design and arrangement of workplaces and equipment
4. To identify human and workplace factors which contribute to ergonomic hazards
5. To develop aptitude in identifying the product / space design problems at place of work

Learning Outcomes

After completing this course, students will be able to:

1. Understand the concept, history and importance of ergonomics in designing.
2. Recognize and appreciate the scope of ergonomics in the professional arena
3. Develop skills in taking anthropometric measurements as applied to different work stations. Apprehend the techniques of conducting time & motion and energy studies.
4. Critically evaluate and design different workstations & equipment with respect to their ergonomics functional effectiveness.
5. Understand the breadth and scope of occupational ergonomics

SYLLABUS

THEORY (Credits 3; Hours 45)

UNIT I: Introduction to Ergonomics

7 hours

This unit will develop understanding regarding concept of Ergonomics

- Ergonomics – concept, significance, history, application of Ergonomics in daily life
- Anthropometry – History and its application in interior designing for different work areas and workers
- Human-Centred Design

UNIT II: The User Component

18 hours

This unit will acquaint students with various components of worker input

- Components of worker input
 - Physical: Bio-mechanics of human movement and musculo-skeletal system, Anatomical position, reference planes and movements
 - Temporal
 - Cognitive
 - Affective

UNIT III: Workplace and Equipment Design

15 hours

This unit will orient students towards developing workstations and equipment suitable for users

- Functional design and arrangement of workplaces
- Work study- Time and motion study, energy study
- Indices of indoor comfort: ventilation, lighting, temperature, noise
- Human Machine Interface- controls and displays

UNIT IV: Risk factors in Ergonomics

5 hours

This will help students learn about risk factors in ergonomics

- Identifying ergonomic hazards
- Occupational safety and Health at workplace

PRACTICAL (Credit 1; Hours 30)

UNIT I: Anthropometric Measurements

- Basic Anthropometry
- Space standards and norms

UNIT II: Work Study

- Time and motion study
- Energy study

UNIT III: Ergonomic Assessment of Workplaces

- Identifying and assessing workplaces
- Designing workstation suitable to the user (CAD/Manual drawing)

Essential Readings

1. Bridger, R. (2017). Introduction to human factors and ergonomics. CRC Press.
2. Salvendy, G. (2012). Handbook of human factors and ergonomics. John Wiley & Sons.
3. Chakrabarti, D. (1997). Indian anthropometric dimensions for ergonomic design practice.
4. Tosi, F. (2019). Design for ergonomics. Springer Nature.
5. Steidl, R.E. & Bratton, E.C. (1967). *Work in the Home*. John Wiley and Sons.

Suggested Readings

1. Hedge, A. et. al. Ergonomic Workplace Design for Health. 1st edition, CRC Press
2. Hedge, A. et. al. Handbook of Human Factors and Ergonomics Methods, CRC Press
3. Helander, M. A Guide to Human Factors and Ergonomics, 2nd edition, CRC Press
4. Shorrock, S., & Williams, C. (2016). Human factors and ergonomics in practice: Improving system performance and human well-being in the real world, CRC Press.

GENERIC ELECTIVE COURSE

GE HS 061: MARKETING MANAGEMENT

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course and Title code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-requisite of the Course
		Lecture	Tutorial	Practical/ Practice		
Marketing Management	4	3	0	1	Class XII pass	NIL

Learning Objectives

1. To impart an understanding of the conceptual framework, scope and importance of marketing management
2. To build an understanding of the macro and micro environment of organisations and their role in coping with changing market scenario
3. To impart knowledge regarding importance and techniques of market research
4. To create an understanding about consumer behaviour, dealing with competition in the market and managing marketing communication

Learning outcomes

After completing the course, students will be able to:

1. Develop an understanding of the importance and scope of marketing
2. Understand the changing macro and micro environment of organizations and importance of market research
3. Understand consumer behaviour and importance of creating customer value
4. Develop an understanding of the competitive strategies in marketing
5. Understanding the role of marketing communication and its effectiveness

SYLLABUS

THEORY (Credits 3; Hours 45)

UNIT I: Understanding Marketing Management and capturing marketing insight

10 hours

The unit focuses on developing the fundamental concept of marketing management, company's orientation towards markets and capturing marketing insights.

- Importance and scope of marketing, traditional vs. digital marketing

- Company orientations towards markets and marketing
- Adapting marketing to new economy
- Analyzing the macro environment (demographic, economic, technological, political, legal, social, cultural)
- Marketing mix
- Conducting market research
- New product development-challenges and process

UNIT II: Consumer Behaviour

11 hours

This unit attempts to acquaint the students with an understanding of the consumer behaviour and creating customer value.

- Definition, Nature, Scope, Consumer Behaviour's Applications in Marketing
- Factors influencing consumer behaviour
- Consumer Adoption Process-stages and factors influencing
- Buying decision process- five stage model
- Creating customer value, satisfaction and loyalty
- Segmenting consumer markets, market targeting

UNIT III: Dealing with Competition

12 hours

This unit focuses on dealing with competition in the market place, building strong brands, and shaping market offerings.

- Identify and analyse competitors, competitive strategies for marketing
- Building strong brands- creating brand equity, brand positioning, differentiation strategies
- Product life-cycle marketing strategies
- Characteristics of services, marketing strategies for service firms, Managing service quality, differentiating services

UNIT IV: Marketing Communication

12 hours

This unit focuses on developing an understanding of the importance of marketing communication and managing different forms of the same.

- Role of marketing communication, designing effective marketing communication
- Managing mass communication: Advertising, sales promotions and public relations
- Managing personal Communication: direct marketing and personal selling

PRACTICAL
(Credit 1; Hours 30)

- UNIT I: Market research proposals and case studies**
 Developing market research proposals on consumer buying behaviour, effect of promotional schemes on consumer purchase, consumer satisfaction and opinion regarding selected products/brands/marketing strategies, online purchasing etc. Using Case study approach (using both secondary and primary data) to develop an understanding of marketing strategies used by large, medium and small companies with emphasis on marketing strategies, marketing mix used, marketing budgets, media use, creating customer value and cultivating customer relationships. To critically evaluate digital marketing strategies adopted by various product and service brands. To develop digital marketing strategy for a hypothetical brand.
- UNIT II: E-commerce and Brand comparison**
 Assessment and critical analysis of online retailing websites with focus on visibility, user interface, experience, ease of transaction etc. Further, to develop an e-tailing prototype. Brand comparisons of products and services in terms of their marketing strategies, tools used by them for brand building and generating brand, find out their strengths and weaknesses and suggest suitable marketing strategies to increase their market share.

Essential Readings

- Kotler, P., & Stigliano, G. (2024). *Redefining Retail: 10 Guiding Principles for a Post-Digital World*. Wiley.
- Daum, C., & Bartonico, M. (2023). *Marketing Management Essentials You Always Wanted To Know*. Vibrant Publishers.
- Kotler, P., Keller, K. (2016). *Marketing Management*, Pearson, New Delhi, 15th edition ISBN:978-81-317-3101-7
- Kotler, P., Keller, K. L., Koshy, A., & Jha, M. (2013). *Marketing Management*, 14th Edition. Pearson Education
- Baines, Fill, Sinha & Page. (2013). *Marketing*. Oxford University Press, New Delhi, Asian Edition, ISBN: 0-19-807944-3
- Kotler, P., Armstrong, G., Agnihothri, P. Y., & Haque, E. U. (2011). *Principles of Marketing*. Pearson, New Delhi, 13th edition, ISBN:978-81-317-3101-7

Suggested Readings

- Kotler P, Keller K.L., Koshy A, Jha M. (2006). *Marketing Management A South Asian, Perspective*, Pearson Education.
- Kotler, P. (2004). *Marketing Management 11th ed*. Pearson Education.
- Michael, J. E., Bruce, J. W. and Williom, J. S. (13th Edition, 2004). *Marketing Management*. Tata McGrawHill, New Delhi.
- Schiffman, L. G., Kanuk, L. L. & Kumar, S. R. *Consumer Behavior*. 10th edition, Pearson Publications
- Schiffman, LG. and Kanuk, L.L, (1994). *Consumer Behavior*. New Delhi: Prentice Hall

**GENERIC ELECTIVE COURSE
GE HS 062: PRODUCT DEVELOPMENT**

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course and Title Code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-requisite of the Course (if any)
		Lecture	Tutorial	Practical/ Practice		
Product Development	4	3	0	1	Class XII pass	NIL

Learning Objectives

This paper will impart knowledge regarding:

1. Materials and their application for creation of products and services.
2. Develop understanding concerning constructional details of products with special reference to furniture and accessories.
3. Help students apply ergonomic principles in design of products for higher user performance and comfort.

Learning Outcomes

After completing this course, students will be able to:

1. Identify design problems and propose new and sustainable ideas for product development
2. Create schematic drawings, constructional details and product prototypes.

SYLLABUS

**THEORY
(Credits 3; Hours 45)**

UNIT I: Understanding Basics of Product Development

12 hours

This unit aims to create an understanding of the basics of product development.

- Need for product development, types of product and components, concerns and issues in the context of design
- Essentials for creating products – skills, knowledge, technology, economic viability, etc.
- Product attributes – form, function and aesthetic
- Application of elements and principles of design to product designing
- Sustainable design practices, preserving traditional practices, designing for challenged communities

UNIT II: Understanding Materials and Processes

12 hours

This unit focuses on understanding the materials and processes with respect to product development.

- Understanding material behavior for furniture construction, product design and aesthetics – properties and finishes
- New and composite materials – application to product design and impact on environment.
- Relating design to materials and process of manufacture

UNIT III: Product Development Process

9 hours

This unit focuses to acquaint the students with the process of product development.

- Design methods
- Stages in design process
- Diffusion and innovation – new product ideas
- Integrated approach to new product development

UNIT IV: Design Research

12 hours

This unit focuses on understanding design research.

- Assessing market potentials for new products
- Market research, design research and user research
- Study of product life cycle and its relevance in new product design
- Product service system evaluation for a sustainable design

PRACTICAL (Credit 1; Hours 30)

UNIT I: Development of attitude towards design appreciation

- Brain storming & synectics to develop creativity
- Understanding design opportunity, problem perception and evaluation of concept
- Idea sketching, mock-ups, clustering of ideas for concept development, refinement and detailing

UNIT II: Product lifecycle

- Life-cycle assessment of selected products

UNIT III: Product materials

- Survey on new, composite and conventional materials available for product design
- Analyzing materials for their suitability in product design

UNIT IV: Product prototyping

- Design development, modeling and prototyping
- Design portfolio indicating the processes for product development

Essential Readings

1. Bridger, R. (2017). Introduction to human factors and ergonomics. CRC Press.
2. Salvendy, G. (2012). Handbook of human factors and ergonomics. John Wiley & Sons.
3. Chakrabarti, D. (1997). Indian anthropometric dimensions for ergonomic design practice.
4. Tosi, F. (2019). Design for ergonomics. Springer Nature.
5. Steidl, R.E. & Bratton, E.C. (1967). Work in *the Home*. John Wiley and Sons.

Suggested Readings

1. Aspelund, Karl (2006). *The Design Process*. New York: Fairchild Publications Inc.
2. Doren, Harold V. (1954). *Industrial Design – A Practical Guide to Product Design and Development*. New York: McGraw-Hill Book Company.
3. Jones, J. Christopher. (1996). *Design Methods: Seeds of Human Factors*. New York: John Wiley & Sons
4. Jordan, Pat. (1998). *Human Factors in Product Design: Current Practice and Future Trends*. London: Taylor and Francis.
5. Macleod, Dan. (1995). *The Ergonomics Edge: Improving Safety, Quality and Productivity*. New York: Nostrand Reinhold.
6. Ulrich, K. T. & Eppinger, S.D. (2011). *Product Design and Development*. McGraw-Hill education
7. W.S. Green & P.W. Jordan (Eds) (1999). *Human factors in product design: Current practice and future trends* (pp.206-217). London: Taylor & Francis.
8. Bergstrom, B. (2009). Essentials of Visual Communication, Laurence King Publishing, London
9. Poore, J. (1994). Interior Colour by Design, Rockport Publishers.
10. Wiley, J. , (2010), Interior lighting for designers, John Wiley & Sons

11. Williams, R. (2007), Visual Communication: Integrating Media, Art, and Science, Routledge Communication Series

GENERIC ELECTIVE COURSE
GE HS 021: TOTAL QUALITY MANAGEMENT

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course and Title code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-requisite of the Course
		Lecture	Tutorial	Practical/ Practice		
Total Quality Management	4	3	0	1	Class XII pass	NIL

Learning Objectives

1. To learn the basic concepts of quality and its dimensions from an organizational point of view.
2. To understand the concept and principles of Total Quality Management and the various tools available to attain quality standards.
3. To create awareness about the quality management systems and best strategies used by industries for continuous improvement.

Learning Outcomes

After completing this course, students will be able to:

1. Understand the concept and principles of Total Quality Management as a business management strategy for achieving quality customer service and satisfaction.
2. Develop knowledge regarding the tools and techniques available for effective implementation of TQM.
3. Gain insights about the Quality Management Systems and best practices used by industries to attain quality standards.

SYLLABUS

THEORY
(Credits 3; Hours 45)

UNIT I: Concept of Total Quality Management**11 hours**

The focus of this unit would be on understanding the basic concept of quality and principles of Total Quality Management as a business strategy for quality assurance.

- Evolution of quality
- Dimensions of product and service quality
- Definition, concept and features of Total Quality Management (TQM)
- Principles of TQM
- Barriers to TQM

UNIT II: TQM Thinkers and Thought**11 hours**

This unit attempts to acquaint the students with the thoughts and contributions made by eminent thinkers in the field of quality management for achieving customer satisfaction.

- Juran Trilogy
- PDCA cycle
- Crosby's theory on Quality Management
- Deming's Philosophy
- Malcolm Baldrige National Quality Award
- Customers' perception, satisfaction and retention in relation to Quality

UNIT III: Tools & Techniques of Total Quality Management**11 hours**

This unit will help students to gain knowledge regarding the various tools and techniques available for effective implementation of TQM.

- Benchmarking: Concepts, benefits, reasons for benchmarking, process of benchmarking.
- Quality Function Deployment (QFD): Benefits, House of Quality, QFD Process.
- Statistical quality control tools.
- Total Productive Maintenance (TPM): Concept and need

UNIT IV: Strategies for Continuous Quality Improvement**12 hours**

This unit will create awareness and understanding about the various Quality Management Systems and best practices used by organizations to attain quality standards.

- Six-sigma: Features, goals, process and implementation
- Kaizen
- Business Process Reengineering
- Understanding Quality Management Systems

PRACTICAL
(Credit 1; Hours 30)

UNIT I: Implementation of Total Quality Management (TQM)

- Analyzing TQM implementation in industries.
- Develop an appraisal on benchmarking for products/services.
- Experiential learning/Simulated exercises on 5S strategy for enhancing quality.
- Organizational case-studies on Quality Function Deployment/House of quality.

UNIT II: Tools and Strategies for Quality Management

- Design and development of quality control tools.
- Developing skill in assessment of statistical tool for quality assurance.
- Six-sigma Exercises
- Reporting of Quality Management System in an organization.
- Case-profiling on best practices regarding organizational quality management systems

Essential Readings

1. Luthra, S., Garg., Agarwal, S., Mangla.K. S. (2021). Total Quality Management (TQM) Principles, Methods, and Applications, CRC Press, ISBN: 9780367512835.
2. Oakland, s. J., Oakland, J. R., Turner, A.M. (2020). Total Quality Management and Operational Excellence, 5th Edition, ISBN-13: 978-1138673403.
3. Luthra, S., Garg., Agrawal. A Mangla. S. (2020). Total Quality Management (TQM): Principles, Methods, and Applications, 1st Edition, CRC Press, ISBN-13: 978-0367512835.
4. Goetsch, D. L., Stanley, B.D. (2012). Quality Management for Organizational Excellence: Introduction to Total Quality (7thed.), Prentice Hall PTR, ISBN-13: 9780132558983.
5. Dahlgaard Jens J., Khanji, K G., Kristensen, K. (2007). Fundamentals of Total Quality Management, 01 Edition, e-ISSN: 9780203930021.

Suggested Readings

1. Lal, H., (2013). Total Quality Management: A Practical Approach 1st Edition, New Age International, ISBN: 9788122402421, 8122402429.
2. Evans, R.J. and Lindsay, M.W. (2012). The Management and Control of Quality, 7th Edition, 1st Indian Edition, Cengage Learning, - 978-0324382358.
3. Janakiraman. B and Gopal .R.K., (2006). Total Quality Management - Text and Cases, Prentice Hall (India) Pvt. Ltd., ISBN: 971-81-203-2995-9.
4. Dale H. Besterfield, et al. (2003). Total Quality Management, Pearson Education, Inc. 2003. (Indian reprint 2004). ISBN 81-297-0260-6.

Progression of GEs

S.No.	Name of Paper	Semester	Level	Whether counted for minor
1	Food Science and Nutrition	1	100	Yes
2	Technology of Food Processing and Preservation	2	100	Yes
3	Chemistry of Foods	3	200	Yes
4	Microbes in Food and Food Safety	4	200	Yes
5	Food Engineering and Packaging Technology	5	200	Yes
6	Processing of Plant Foods	6	300	Yes
7	Processing of Meat and Marine Foods	7	300	Yes
8	Sensory Evaluation of Food	8	300	No

Distribution of Generic Elective papers in ODD and EVEN Semester:

Level	Odd Semester	Even Semester
100	Food Science and Nutrition*	Technology of Food Processing and Preservation*
200	Chemistry of Foods *	Microbes in Food and Food Safety*
	Food Engineering and Packaging Technology*	
300	Processing of Meat and Marine Foods*	Processing of Plant Foods *
		Sensory Evaluation of Food

***Mandatory courses for minor degree**

**GENERIC ELECTIVE COURSES (GE) FOR MINOR DEGREE IN FOOD
TECHNOLOGY**

GE Code	Paper Name	Theory	Practical	Tutorial	Number Of Credits
GE FT-1	Food Science and Nutrition (New)	3	1	-	4
GE FT-2	Technology of Food Processing and Preservation (New)	3	1	-	4
GE FT-4	Microbes in Food and Food Safety (New)	3	1	-	4
GE FT-5	Food Engineering and Packaging Technology (New)	3	1	-	4
GE FT-6	Processing of Plant Foods (New)	3	1	-	4
GE FT-7	Processing of Meat and Marine Foods (New)	3	1	-	4

GENERIC ELECTIVE COURSE
GE FT01- Food Science and Nutrition

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

CourseTitle & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of thecourse (if any)
		Lecture	Tutorial	Practical		
Food Science and Nutrition	4	3	0	1	Grade XII Pass	

Learning Objectives

1. To equip students with a comprehensive understanding of the composition of foods, exploring both their functional roles and the chemical changes that occur during food processing.
2. To provide the knowledge of nutrients, their functions and associated deficiency diseases or metabolic disorders.

Learning Outcomes

Students will be able to:

1. Acquire a comprehensive understanding of the chemical and physical properties of food and their impact on food processing.
2. Acquire an understanding of food composition and nutrition.
3. Understand healthy diets, importance of nutritional labelling and effect of cooking on nutritive value of foods.

SYLLABUS

THEORY
(Credits 3; Hours 45)

Unit I- Introduction to Food science and Nutrition

15 hours

The unit will provide an understanding of food components, their important reactions in foods and nutritional value.

Understanding Food Science, Food technology, Nutrition

Food composition:

- Carbohydrates- structure, classification, examples, sources, functions in body, deficiency, important reactions in food- dextrinization, Non-enzymatic browning, gelatinization
- Lipids- structure, classification, examples, types of fatty acids, sources of fats, functions in body, deficiency, important functions in food- plasticity, rancidity, shortening, emulsion.
- Protein- structure, examples, sources, functions in body, important processes in food- denaturation, role in browning.
- Vitamins- Fat and water soluble vitamins (thiamine, riboflavin, niacin, folic acid, B₁₂ and Ascorbic acid)- sources, general role in body (2-3 important functions of each), names of deficiency diseases and their brief explanation.
- Minerals- Macro and micro minerals- Iron, calcium, iodine, zinc- sources, general role in body (including 2-3 important functions of each), names of deficiency diseases and their brief explanation.
- Non-nutrient components- Pigments, polyphenols, role in disease prevention. Examples: Role in food- colour, enzymatic browning.

Unit II- Plant and animal based foods based foods

20 hours

The unit will help develop an understanding of plant and animal based foods and their importance in food processing.

- Cereals- composition, names of major cereals, millets, pseudo cereals, cereal products- examples of baked products, role of wheat in gluten formation, examples of ready to eat and traditional breakfast cereals and cereal products.
- Pulses- Composition and examples, names of toxic constituents, methods of processing of pulses, examples of pulse based fermented foods
- Fruits and vegetables- composition, enzymatic browning, ripening, climacteric and non-climacteric fruits.
- Vegetable Oils- Sources, refining of oils, hydrogenation
- Meat- Types, composition, marbling, characteristics of fresh meat, rigor mortis, ageing, animal fats- lard and tallow
- Fish- Types, characteristics of fresh fish, fish spoilage.
- Egg- Composition, characteristics of fresh egg, evaluation of egg quality, egg spoilage.
- Milk- Composition, types of market milk- toned, full cream, homogenized milk, flavoured milk. Pasteurization-importance and methods. Milk products- examples

Unit III- Healthy Diets

5 hours

The unit will help in developing an understanding of balanced diets, nutritional labelling, effect of cooking on nutritional value of food and association between food and lifestyle disorders.

- Balanced diets- Concept of Recommended dietary allowance and Estimated Average Requirements, food groups, relationship between food and lifestyle disorders, understanding malnutrition.
- Nutritional labelling- Concept, understanding a nutrition label
- Methods of cooking- Examples, effect of methods of cooking on food and nutrients, minimising cooking losses.

PRACTICAL
(Credit-1, Hours-15)

- Non enzymatic browning in flours and sugars.
- Enzymatic browning in fruits and vegetables.
- Gelatinization of starch.
- Gluten formation in flours.
- Egg equality inspection.
- Germination of pulses.
- Platform tests of milk.
- Identification of food sources for important nutrients using food composition tables.
- Critical analysis of nutritional labelling of food products.
- Preparation of snacks using different cooking methods.

Essential Readings

1. Bawa. A.S., Chauhan, O.P, Raju. P.S. (2013) ed. Food Science. New India Publishing Agency.
2. Potter, N.N., & Hotchkiss, J.H. (2012). Food Science. Springer Science and Business Media.
3. Rodey, S. (2018). Food science and Nutrition. Oxford University press. 4th edition.
4. Srilakshmi, B. (2018). Food Science. New Age Publishers. 7th edition.
5. Byrd-Bredbenner, C., Moe, G., Beshgetoor, D. & Bernning, J. (2002). Wardlaw's Perspectives in Nutrition, International Edition, 12th edition, New York:McGrow-Hill 29.
6. Chadha,R. and Mathur, P. eds. (2015). Nutrition: A Lifecycle Approach. Hyderabad, Orient Blackswan.
7. Longvah, T., Ananthan, R., Bhaskarachary K. and Venkaiah, K. (2017). Indian Food Composition Tables. Hyderabad: National Institute of Nutrition, Indian Council of Medical Research, Department of Health Research, Ministry of Health and Family Welfare, Government of India.

Suggested Readings

1. Rao, E.S. (2019). Fundamentals of Food Technology and Preservation, Variety Books, New Delhi.
2. De, Sukumar. (2007). Outline of Dairy Technology. Oxford University Press.
3. Kent, N.L. (2018). Kent's Technology of Cereals: An introduction for students of food science and agriculture. Elsevier. 5th edition.
4. Manay, N.S., & Shadaksharaswamy, M. (2008). Food- Facts and Principles, 3rd Edition. New Age International (P) Ltd. Publishers, New Delhi.
5. Rekhi, T., and Yadav, H.(2014). Fundamentals of Food and Nutrition. New Delhi: Elite Publishing House Pvt. Ltd.
6. Stewart, G.F., & Amerine, M.A. (2012). Introduction to Food Science and Technology. Elsevier. 2nd Edition.

GENERIC ELECTIVE COURSE
GE FT02- Technology of Food Processing and Preservation

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course Title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical		
Technology of Food Processing and Preservation	4	3	0	1	Grade XII Pass	

Learning Objectives

The objective of this subject is to impart the basic concept of food colloids, freezing, dehydration processes and equipment used during the processing, principles of thermal processing, Minimal Processing and hurdle technology and to understand the concept of water disposal and sanitation

Learning Outcomes

Students will be able to:

1. Understand the concept of food processing operation systems such as food colloids, Freezing, Dehydration processes and equipment used in food industry.
2. Comprehend the Principles of minimal Processing, thermal processing such as aseptic Processing, UHT Irradiation and microwave heating, hurdle technology and their applications in food industry.
3. Understand the concepts of water disposal and sanitation

SYLLABUS

THEORY
(Credits 3; Hours 45)

UNIT I: Food Processing Operations

20 Hours

- **Refrigeration and Freezing:** Requirements of refrigerated storage - controlled low temperature, air circulation and humidity, changes in food during refrigerated storage, progressive freezing, changes during freezing

Freezing methods -direct and indirect, still air sharp freezer, blast freezer, fluidized freezer, plate freezer, spiral freezer and cryogenic freezing.

- **Dehydration:** Normal drying curve , effect of food properties on dehydration, change in food during drying, drying methods and equipments: air convection dryer, tray dryer, tunnel dryer ,continuous belt dryer , fluidized bed dryer, dryer, drum dryer, vacuum dryer , freeze drying, foam mat drying.
- **Thermal Processing of Foods:** Classification of thermal processes, Principles of thermal processing, commercial canning operations, Aseptic Processing, UHT Irradiation and microwave heating. Principles, Dosage, Applications of Irradiation, Mechanism of microwave heating and applications.

UNIT II: Technology of Colloids in Food

5 Hours

- Surface chemistry (colloids, emulsions, foam, sols, gels, pectin gels)

Unit III: Water Disposal and Sanitation

5 Hours

- Waste water , hardness of water, break point chlorination, physical and chemical nature of impurities, BOD, COD, waste water treatment, milk plant sanitation, CIP system, sanitizers used in food industry

Unit IV: Minimal processing and hurdle technology

5 Hours

PRACTICAL (Credit 1; Hours 30)

- Study of canning equipment (Forming, Flanging, Seaming, Exhausting and Retort)
- Canning of foods
- Preservation of food by the process of freezing
- Drying of food using Tray dryer/other dryers
- Study of thawing characteristics of frozen foods
- Preparation of brix solution and checking by hand refractometer
- Analysis of water
- Minimal Processing of food
- Application of colloidal chemistry in food preparation

Essential Readings (Theory)

1. Deman, J.M. (2007).Principles of Food Chemistry, 3rd Ed. Springer.
2. Potter, N. and Hotchkiss H. (2007).Food Science. New Delhi: CBS Publication.
3. Ramaswamy, H. and Marcotte, M. (2009).Food Processing Principles and Applications. CRC Press.
4. Fellows' Food Processing Technology Principles and Practice 5th Edition (2022) Elsevier Publishing

Essential Readings (Practical):

1. A., Rashida & Joy, P.P.. (2014). A Food Technology Lab Manual.
2. FSSAI, M. (2015). Manual of methods of analysis of foods. *Method, 16*, 56-61.

3. Coles, R., McDowell, D. and Kirwan, M.J. (2003). Food Packaging Technology. CRC Press, 2003.
4. Meyer LH.(1987). Food Chemistry, CBS Publication, New Delhi

GENERIC ELECTIVE COURSE
GE FT04- Microbes in Food and Food Safety

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course Title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical		
Microbes in Food and Food Safety	4	3	0	1	Grade XII Pass	

Learning Objectives

1. To understand the important genera of microorganisms associated with food and their characteristics.
2. To understand the role of microbes in fermentation, spoilage and food borne diseases.
3. To understand the principles of food preservation.
4. To understand Food safety , types of hazards associated with food and current regulatory regime along with food safety management systems.

Learning Outcomes

1. Acquaint the knowledge of the important genera of microorganisms associated with food and their characteristics.
2. Able to explain the role of microbes in fermentation, spoilage and food borne diseases and their role in food preservation
3. Understand Food safety and types of hazards associated with food
4. Introduction to current Food Regulatory regime and Food Safety Management Systems.

SYLLABUS

THEORY
(Credits 3; Hours 45)

Unit I: Introduction to Food Microbiology

10 Hours

Covers genera of microorganisms associated with food and their characteristic features , growth pattern and enumeration

- Definition and Scope of food microbiology
- Types of Microorganisms in food (bacteria, fungi and viruses)
- Sources of Microorganisms in foods
- Bacterial growth curve, Factors affecting the growth of micro- organisms in food

- Enumeration of microorganisms

Unit II: Role of microorganisms in Food and their control

15 Hours

Role of microbes in fermentation, spoilage and food borne diseases is the focus of this unit along with food preservation principles and techniques (

- Food Spoilage , Spoilage in different food types
- Beneficial Role of Microorganisms -Microorganisms used in food fermentations, Common Fermented Foods
- Food borne diseases and types – food infections, food borne intoxications and toxin infections
- Principles of Food preservation and common methods used in food industry, Effect of preservation methods such as thermal processing, freezing and irradiation on microbes
- Introduction to Novel Techniques of Food Preservation- HHP,PEF, Ohmic heating, Microwaves etc. and Hurdle Technology

Unit III: Food Safety and Regulations

10 Hoous

Covers food safety , types of hazards associated with food , current regulatory regime and

- Food safety: Definition, Types of hazards, biological, chemical, physical hazards and allergens
- Food Safety Management Tools: GHP, HACCP and ISO series
- National Regulatory Regime
- International Regulatory bodies

PRACTICAL (Credit 1; Hours 30)

- Introduction to the Basic Microbiology Laboratory Practices and equipments used in a microbiology laboratory-autoclave , laminar air flow chamber, incubators, hot air oven ,colony counter
- Cleaning and sterilization of glassware
- Working and handling of a compound microscope
- Simple staining
- Gram's staining
- Preparation and sterilization of culture media
- Standard Plate Count Method
- Bacteriological Analysis of Water using MPN method

Essential Readings

1. Forsythe, S J. (1987) Microbiology of Safe Food. USA: Blackwell Science, Oxford, 2000 65 & Sons.
2. Frazier, William C. and Westhoff, Dennis C. (2004). Food Microbiology. New Delhi: TMH.
3. Garbutt, John.(1997). Essentials of Food Microbiology. London: Arnold.
4. Jay, James M. (2000). Modern Food Microbiology. New Delhi: CBS Publication.

Suggested Readings

1. De Vries. (1997). Food Safety and Toxicity. New York: CRC.
2. Lawley, R., Curtis L. and Davis, J. (2004). The Food Safety Hazard Guidebook. RSC Publishing.
3. Marriott, Norman G. (1985). Principles of Food Sanitation. New York: AVI.
4. Pelczar, M.J., Chan E.C.S and Krieg, Noel. R. (1993) Microbiology, 5th Ed. New Delhi: TMH
5. Mathur, P. (2018). Food Safety and Quality Control. Hyderabad: Orient Black Swan Pvt. Ltd.

GENERIC ELECTIVE COURSE
GE FT05: Food Engineering and Packaging Technology

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITE OF THE COURSE

Course title & code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Theory	Tutorial	Practical/Practice		
Food Engineering and Packaging Technology	4	3		1	XII Pass with Science	

Learning Objectives

1. understand the fundamental engineering principles of Unit operations.
2. To acquaint with fundamentals of food engineering and its process.
3. To develop an understanding of the various packaging materials, techniques and package design used for food packaging.

Learning Outcomes

After completing this course, students will be able to:

1. Understand the principles of Unit operation
2. Acquaint with fundamentals of food engineering and its processes
3. Develop an understanding of different food packaging materials and packaging design and techniques used for various foods

SYLLABUS

THEORY
Credits 3 (45 Hrs.)

UNIT I:

Unit Operations and Processes: Engineering Concepts

20 hours

- Units and Dimensions, Mass and Energy Balance
- Food Plant Layout and Design.

- Heat transfer- Laws of Conduction, convection, Radiation
- Steam: Thermodynamics of Phase change, Pressure enthalpy diagram, Boilers
- Evaporation – Evaporator types and Design of single effect evaporator
- Dehydration- Basic drying process and Principle
- Refrigeration and Freezing -VCR System, Pressure Enthalpy Charts, Mathematical expressions useful in analysis of VCR System. Freezing time prediction- Plank's Equation
- Psychrometrics- Psychrometric Chart construction and uses
- Fluid flow-Liquid Transport system, Properties and Classification of fluids, Reynolds number.

UNIT II:

Separation and Size Reduction Processes

10 hours

- Principle and equipment used for Filtration, Extraction, Distillation, Centrifugation, Sieving.
- Milling, Grinding and Mixing of Foods

UNIT III:

Food Packaging

15 hours

Food Packaging- Concept, Functions and Significance. Manufacturing Process and Application of Rigid, Semi Rigid and Flexible Food Packaging Material. Aseptic, Intelligent and Active packaging. Packaging Techniques for Fresh Agricultural Produce, and Processed Foods.

PRACTICAL (Credit 1; Hours 30)

- Study the dehydration process of foods.
- Study the freezing characteristics of foods.
- Study the evaporation process.
- Study and use of psychrometric chart.
- To design layout of a food plant.
- Sieve analysis of Food samples.
- Determination of viscosity of foods using Viscometer.
- Identification and Testing of packaging materials.
- Demonstration of vacuum/gas packaging of foods.

Essential Readings (Theory):

1. Singh, R.P. and Heldman, D.R.(2013).Introduction to food engineering, 5thEd. Academic Press

2. Rao, D.G.(2010).Fundamentals of food engineering. PHI learning private Ltd.
3. Robertson, (2012) Food Packaging: Principles and Practices , CRC Press
4. Saha, N.C., Ghosh, A.K., Garg, M., Sadhu, S.D (2022) Food Packaging :Materials, Techniques and Environmental Issues, publisher springer
5. Kshitiz Kumar, Pravin M Ganorkar, Vijay Singh Sharanagat (2023). Food Packaging-Principles and Applications. Nipa® genx electronic resources & solutions p. Ltd. New Delhi.

Essential Readings (Practical):

1. Meenakshi Garg, Premlata Meena, Sushmita D Sadhu, Tanveer Alam. “Food Packaging: A Practical Guide” The Computype Media (Publishing Division), ISBN No.614027934-9; 2020.

GENERIC ELECTIVE COURSE
GE FT06: Processing of Plant Foods

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITE OF THE COURSE

Course title & code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Theory	Tutorial	Practical/Practice		
Processing of Plant Foods	4	3		1	XII Pass	

Learning Objectives

1. To understand the concept of processing of plant food.
2. To understand the processing of fruits, vegetables, cereals, pulses and oilseeds.
3. To understand the processing of various spices, tea, and coffee.

Learning Outcomes

After completing this course, students will be able to:

1. Understand different methods of fruit and vegetable processing.
2. Understand technical knowhow of Cereals, pulses, and oilseeds processing
3. Understand the processing of various spices, tea, and coffee

SYLLABUS

THEORY

(Credits 3; Hours 45)

UNIT I: Technology of Fruits & Vegetables

20 Hours

This unit will focus on the preservation and processing of fruits and vegetables. Students will also learn about the techniques involved in processing fruit juices, jams, pickles, and tomato products, and shelf stability.

- Introduction & importance of fruit & vegetable preservation, history and need of preservation
- Canning and bottling of fruits and vegetables: Selection of fruits and vegetables, process of canning, containers of packing, spoilage in canned foods
- Processing and preservation of fruit juices and beverages
- Processing and preparation of jams, jellies and marmalades, defects in jelly
- Pickles- processing and types
- Tomato products, tomato puree, paste, ketchup and soup

UNIT II: Technology of cereals, pulses and oilseeds

15 Hours

This unit will focus on the technology of cereals, pulses, and oilseeds, covering aspects such as milling of wheat and rice, processing of pulses, milling of millet, and extraction and refining of oils from oilseeds.

- Wheat - Types, milling, flour grade
- Rice- Variety, milling, parboiling
- Pulses- Dry and Wet milling
- Millet- Variety, milling
- Oilseeds- extraction of oils and refining

UNIT III: Spices and plantation products

10 Hours

This unit will focus on the processing and properties of major and minor spices, extraction of essential oils and oleoresins, and the processing techniques involved in tea and coffee production.

- Spices- processing and properties of major and minor spices
- Essential oils and oleoresins
- Tea and coffee: processing

PRACTICAL (Credit 1; Hours 30)

- Physical characteristics of wheat
- Determination of bulk density, true density and specific gravity of legumes and oilseeds.
- Study of cooking quality of rice
- Estimation of degree Brix: Acid ratio
- Cut out analysis of any plant food can
- Preparation of Jam
- Preparation of tomato products
- Dehydration and Rehydration of fruits or vegetables
- Qualitative estimation of adulteration in spices

Essential Readings

1. Girdharilal., Siddappaa, G.S and Tandon, G.L. (2009). Preservation of fruits & Vegetables. New Delhi: ICAR.
2. Kent. N.L. (2003). Technology of Cereal. 5th Ed. Pergamon Press.
3. Chakraverty A. (2018) Post Harvest Technology of Cereals, Pulses and Oilseeds, revised ed. Oxford & IBH Publishing Co. Pvt Ltd.
4. Srilakshmi. (2018). Food Science, 8th Edition. New Age International Ltd.

Suggested Readings

1. Thompson, A.K., (2003). Fruits and vegetables; Harvesting, handling and storage. Blackwell Publishing.
2. Manay, S. and Shadaksharaswami, M. (2020). Foods: Facts and Principles. New Age Publishers.
3. Ranganna S. (2017). Handbook of analysis and quality control for fruits and vegetable products. Tata Mc Graw-Hill publishing company limited, Second edition.
4. Srivastava, R.P. and Kumar, S. (2006). Fruits and Vegetables Preservation- Principles and Practices. 3rd Ed. International Book Distributing Co.

GENERIC ELECTIVE COURSE
GE FT07- Processing of Meat and Marine Foods

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
Processing of Meat and Marine Foods	4	3	0	1	XII with PCM/PCB	NIL

Learning Objectives

The Learning Objectives of this course are as follows

1. To understand aspects of Indian Meat industry, meat quality and slaughter processes
2. To acquire the knowledge of fish preservation and value-added fish products

Learning outcomes

The Learning Outcomes of this course are as follows:

1. Understand the need and importance of meat and marine industry.
2. Comprehend meat and marine processing & technology.
3. Acquire knowledge about meat and fish by-products
4. Understand preservation of fish

SYLLABUS

THEORY
(Credits 3; Hours 45)

Unit I: Meat quality, slaughter process and by-products. 15 Hours

- Status of livestock population in India, development of meat industry in India.
- Colour and texture of meat (Water holding capacity, Emulsification capacity of meat).
- Slaughter, antemortem and postmortem examination of Sheep/Goat.
- Classification of meat byproducts and uses

Unit II: Fish quality and Low Temperature Preservation 15 Hours

- Status of fishery industry in India.
- Fish: characteristics and structure of fish muscle, Effect of method of catching and handling on the quality of fish, post mortem changes, rigor mortis, autolytic changes, changes in fish proteins on storage, spoilage of fish, packaging of fish, contaminants and naturally occurring toxicants in fish

- Relationship between chilling and storage life, MAP, general aspects of freezing, freezing systems (air blast freezing, plate or contact freezing spray or immersion freezing, freezing on board, onshore processing, changes in quality in chilled and frozen storage, thawing.

Unit III: Processing of Meat and Fish

15 Hours

Canning of Meat, Sausage classification and manufacture, Retort pouch meat, Traditional Meat products of India

- Salting of fish, salting methods (brining, pickling, kench curing, gaspe curing), Salted fish products- pindang, fishwood.
- Drying and Smoking: Smoke production, smoke components, quality, safety and nutritive value of smoked fish, processing and equipment, pre-smoking processes, smoking process control.
- Principles of canning of fish, canning of (Tuna, Mackerel, Sardine).
- Basic concepts of Surimi and fish mince products.

PRACTICAL 1 Credit (30 Hrs)

- Analysis of frozen meat / meat emulsion product.
- Cut out analysis of canned meat/retort pouches (Internal parameters) .
- Cut out analysis of canned meat/retort pouches (External parameters).
- Cut out analysis of canned fish (Sardine/Mackerel/Tuna) (Internal parameters).
- Cut out analysis of canned fish (Sardine/Mackerel/Tuna) (External parameters).
- Estimation of moisture content in meat.
- Preparation of Meat/fish product (Ideation/development of product).
- Subjective evaluation of Fresh Fish.
- Quality assessment of market sample of processed fish products.

Essential Readings (Theory)

1. Hall, G.M. (1997). Fish Processing Technology. 2nd ed., Blackie Academic and Professional, an imprint of Chapman & Hall., NY.
2. Sen, D.P. (2005). Advances in Fish Processing Technology, Allied Publishers Pvt. Limited.
3. Lawrie, R. A. (2017). Lawrie's meat science. 8th ed. England: Woodhead Publishing Ltd.
4. Martin, R.E., Collete, R.L. and Slavin, J.W. (1998). Fish Inspection, Quality Control

- and HACCP: A Global Focus.1st ed. (Eds), CRC Press,
5. Borda, D., Nicolau. A. I. and Raspor, P. (2017). Trends in Fish Processing Technology (Contemporary Food Engineering Series). 1st edition, Taylor & Francis.
 6. Hall GM, Fish Processing Technology, VCH Publishers Inc., NY, 1992.
 7. Lawrie R A, Lawrie's Meat Science, 5th Ed, Woodhead Publisher, England, 1998

GE: ENTREPRENEURIAL FINANCE

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course
		Lecture	Tutorial	Practical/Practice		
Entrepreneurial Finance (GE)	4	3	1	0	Class 12	None

Learning Objectives

The objectives of the course are to build knowledge and skills in entrepreneurial finance. Students will study the financing of small and medium-sized businesses from the perspective of both the entrepreneur and investors.

Learning Outcomes

1. Understanding of the requirements of funding for entrepreneurs.
2. Analyse company's capital structure and its impact on profitability.
3. Assess the present and future of any entity.

Course Contents:

Unit 1: Entrepreneurial Finance and Funding Opportunities (12 hours)

The concept of entrepreneurial finance. Understanding financial management: objectives, concept of risk and return, time value of money.

Financing a new venture: seed fund, boot strapping, angel funding, VC funding, funding rounds. Long-term & short term financing. Term sheets.

Unit 2: Investment Techniques for Growth (12 hours)

Cost of capital: meaning, classification & computation. Capital budgeting techniques. Capital structure and its impact on EPS.

Unit 3: Assessing Working Capital Requirements for Business (12 hours)

Working capital, factors determining working capital. Estimation of working capital requirements. Financing of working capital. Optimum Inventory level, cash conversion cycle.

Unit 4: Business Analysis and Exit Strategies (9 hours)

Break even Analysis. Ratio Analysis for evaluation of operating and financial performance. Fundamental analysis. Growth and exit strategies. Process of IPOs.

Essential/Recommended Readings:

1. Leach, C.J. and Melicher, R.W.: Entrepreneurial Finance, Thomson.
2. Stanton, J.M., Entrepreneurial Finance – For New and Emerging Businesses, Thomson

Additional Readings:

1. Smith, J.K., Smith, R.L. and Bliss, R.T., Entrepreneurial Finance, Stanford University Press
2. Smith, J.K. and Smith, R.L., Entrepreneurial Finance, Wiley
3. Rogers, S., Entrepreneurial Finance, McGraw Hill
4. Chandra, P., Financial Management, McGraw Hill

B.A. Honours Business Economics**Generic Elective Courses****GE: Principles of Microeconomics**

Course Title and Code	Credits	Credit distribution of the course			Eligibility Criteria	Pre-requisite of the course
		Lecture	Tutorial	Practical/Practice		
Principles of Microeconomics	4	3	1	0	Class XII	None

Learning Objectives

This course aims to:

- (i) develop a theoretical understanding of strategic behaviour of economic agents and functioning of a market economy through demand and supply
- (ii) offer understanding of the basic principles of micro economics like problem of scarcity and choice, elasticity, optimisation of resources
- (iii) introduce students with concepts of consumer theory, production and cost, analysis of individual choices
- (iv) equilibrium outcomes and how they are determined by changing market and social conditions
- (v) impart sufficient examples based on real economy from both local and global perspective.
- (vi) offer sound knowledge and skill to use the managerial economics concepts and techniques for effective management planning, evaluating performance and making decisions.

Learning Outcomes

By studying this course, students will be able to:

- (i) to assess the economic analysis method, with reference to cost-benefit analysis of private and public actions.
- (ii) compare and contrast production and cost in short run and long run
- (iii) to identify and evaluate various models of different markets, and the price and output decisions for maximizing profit
- (iv) understand the links between household and firm behavior and the economic models of demand.
- (v) use the microeconomic theory and principles to current issues and evaluate related public policy initiatives and response

Unit I: - Introductory concepts and methods**[8 hours]**

Scope of Economics, Three principles: optimization, equilibrium and evidence. Markets, Demand and supply curves: individual and aggregate and shifts.

Unit: II : Foundations of Microeconomics**[12 hours]**

Preferences, price and income changes and the demand curve; consumer surplus and elasticities. Production, cost curves and revenue curves. Supply curve and its elasticity; long and the short run; producer surplus. Competitive equilibrium, entry and exit; economic and accounting profit. Perfect competition and pareto efficiency; resource allocation; deadweight loss; equity and efficiency.

Unit III: Trade, Externalities and Factor Markets**[12 hours]**

Production possibility curve and opportunity cost. Basis of trade: absolute and comparative advantage. Trade between states and between countries. Arguments against free trade. Externalities positive and negative; private solutions and government solutions. Public goods and common goods. Markets for factors of production; labour, physical capital and land. The supply of labour and wage inequality.

Unit IV : Market Structure**[13 hours]**

Sources of market power. The monopolist: revenue curves, optimal quantity and price. Price discrimination and government policy towards monopoly. Oligopoly models with homogenous and non-homogenous products. Monopolistic competition: short run and long run equilibrium.

Essential Readings

Acemoglu Daron, David Laibson, List John, Microeconomics, Pearson 2019

Additional Readings

Core Econ Team, The Economy 1.0 and The Economy 2.0, www.core-econ.org

Case, K.E., Fair, R.C., Sharon O., Principles of Economics, Pearson

B.A. Honours Business Economics**Generic Elective Courses****GE: Principles of Macroeconomics**

Course Title and Code	Credits	Credit distribution of the course			Eligibility Criteria	Pre-requisite of the course
		Lecture	Tutorial	Practical/Practice		
Principles of Macroeconomics	4	3	1	0	Class XII	None

Learning Objectives

This course aims at inculcating an understanding:

- (i) key macroeconomic variables with a sound understanding of aggregate economic accounts and definitions.
- (ii) the differences between real and nominal variables, how GDP is measured and its limited applicability to welfare.
- (iii) equilibrium under different assumptions on aggregate demand and supply.
- (iv) the relation between wages, prices, unemployment under different models
- (v) the concept of open economy and how it determines the balance of payments, types of exchange rates.

Learning Outcomes

By studying this course, the students will be able to:

- (i) understand the basic principles of and definitions of national income accounting and determination of GDP
- (ii) understand basics of consumption function and different hypotheses regarding aggregate consumption behavior.
- (iii) derive wage setting, price setting relations and labour market equilibrium.
- (iv) learn about the key determinants of economic growth through the lens of the solow/neoclassical growth model and the difference between growth through capital accumulation and technological progress
- (v) identify key macroeconomic indicators and measures of economic change, growth, and development.
- (vi) apply economic theories and concepts to contemporary social issues, as well as formulation and analysis of policy.
- (vii) apply basic international trade and finance concepts to global pricing issues, including working with exchange rates

Unit I: National Income and Production**[10 hours]**

Macroeconomic questions. National Income Accounts: circular flow, production income and expenditure. Limitations of GDP; real and nominal. Productivity and Incomes, Inequality of incomes and productivity and measurement. Aggregate production function and its representation. Determinants of technology.

Unit II: Economic Growth and Development**[5 hours]**

Growth and its patterns and its determinants. History of economic growth. Growth, inequality and poverty. Solow Growth Model.

Unit III: Macroeconomic Equilibrium**[15 hours]**

Measuring employment and unemployment. Labor market equilibrium and unemployment structural & cyclical. Natural rate of unemployment. Credit markets, interest rates and supply and demand curves for credit and equilibrium. Banks & financial intermediation. Functions of banks. Monetary system: money, types and money supply. Quantity theory of money. Inflation: causes, consequences, social costs and benefits. Central bank functions and objectives of monetary policy. Bank reserves and demand, supply of federal funds.

Unit IV: Fluctuations and Policy Interventions

[15 hours]

Economic fluctuations and business cycles. Sources of fluctuations, multipliers, equilibrium in the short and the medium run.

Countercyclical monetary policy: controlling repo rate and other tools. Countercyclical fiscal policy: expenditure based, taxation based and others.

Essential Readings:-

Macroeconomics, Daron Acemoglu, David Laibson, John List, Pearson 2023.

Additional Readings

Core Econ Team, The Economy 1.0 and The Economy 2.0, www.core-econ.org

Case, K.E., Fair, R.C., Sharon O., Principles of Economics, Pearson