

**3 Yr. Degree Course
(Minor)
based on NEP-2020
HOME SCIENCE**



(Effective from Session 2024-25)

(Batch: 2024-2027)



SAMBALPUR UNIVERSITY

JYOTI-VIHAR, BURLA, SAMBALPUR, ODISHA-768019

COURSE AT A GLANCE (NEP-UG)

SUBJECT: HOME SCIENCE

ACADEMIC SESSION: 2024-27

CORE-I COURSE

Course Number	Semester	Course Title	Type of Paper P-Practical NP-Non-practical	Credit Hour	Maximum Weightage of Marks
Paper-I	I	FOOD AND NUTRITION	P	4	100
Paper-II		CHILD DEVELOPMENT	P	4	100
Paper-III	II	FAMILY RESOURCE MANAGEMENT	P	4	100
Paper-IV		HOME SCIENCE EXTENSION EDUCATION	P	4	100
Paper-V	III	INTRODUCTION TO TEXTILES	P	4	100
Paper-VI		DYNAMICS OF COMMUNICATION	P	4	100
Paper-VII		DEVELOPMENT IN LATE CHILDHOOD AND ADELOSCENCE	P	4	100
Paper-VIII	IV	MATERNAL AND CHILD NUTRITION	P	4	100
Paper-IX		HUMAN PHYSIOLOGY	P	4	100
Paper-X		FUNDAMENTALS OF CLOTHING AND FASHION DESIGN	P	4	100
Paper-XI	V	MARRIAGE AND FAMILY STUDY	NP	4	100
Paper-XII		FAMILY FINANCE AND CONSUMER STUDIES	P	4	100
Paper-XIII		COMMUNITY HEALTH AND NUTRITION	P	4	100
Paper-XIV	VI	RESEARCH METHODOLOGY	NP	4	100
Paper-XV		HOUSING AND INTERIOR DESIGN	P	4	100
Paper-XVI	VII	THERAPEUTIC NUTRITION	P	4	100
Paper-XVII		EARLY CHILDHOOD CARE AND EDUCATION	P	4	100
Paper-XVIII		HOUSEHOLD ECONOMICS	P	4	100

Paper-XIX		RURAL DEVELOPMENT	P	4	100
Paper-XX	VIII	FABRIC CARE AND MANAGEMENT	P	4	100
Paper-XXI		FOOD SAFETY AND STANDARDS	P	4	100
Paper-XXII		EXCEPTIONAL CHILDREN	P	4	100
Paper-XXIII		ENTERPRENURSHIP DEVELOPMENT	P	4	100

CORE-II/CORE-III COURSE

Course Number	Semester Core-II/ Core-III	Course Title	Type of Paper P-Practical NP-Non-practical	Credit Hour	Maximum Weightage of Marks
Paper-I	I/II	FOOD AND NUTRITION	P	4	100
Paper-II	III/IV	CHILD DEVELOPMENT	P	4	100
Paper-III	V/VI	FAMILY RESOURCE MANAGEMENT	P	4	100
Paper-IV	VII	HOME SCIENCE EXTENTION EDUCATION	P	4	100
Paper-V	VIII	INTRODUCTION TO TEXTILE	P	4	100

CORE COURSE II/ III

Minor (Paper-I) Semester I/II

Food and Nutrition

Course Outcome:

- The students will get basic knowledge on food, nutrients and their contribution.
- The students will gain practical knowledge on market survey and locally available food stuffs from each food group.

Learning Outcome:

- The students will learn the basic concepts in food, nutrition and health.
- The students will gain an insight into the classification, functions, dietary sources, and daily requirements of various nutrients.
- The students will understand about different food groups and their nutritional contribution.
- The students will be aware of different methods of cooking along their advantages and disadvantages.

Unit I: Basic Concepts in Food and Nutrition

- Introduction to Food and Nutrition Science- Definitions (food, food science, food additive, fermented food, food fortification, functional food, nutrition, health, nutrients, nutritional status, optimal nutrition, nutrition security).
- Classification and Functions of Food- Physiological, psychological, and socio-cultural.
- Food Groups- Basic five and seven food groups, their nutritional contribution.
- Methods of Cooking- Different methods of cooking and their advantages and disadvantages: Dry methods - frying, sautéing, parching, roasting, grilling/broiling, toasting and baking. Moist methods - boiling, steaming, stewing, simmering, poaching, blanching, pressure cooking. Combination method- braising.

Unit II: Macro Nutrients

- Carbohydrates- Introduction, classification, functions, dietary sources and daily requirements.
- Proteins- Introduction, classification, functions, dietary sources and daily requirements.
- Lipids- Introduction, classification, functions, dietary sources and daily requirements.

Unit III:Micro Nutrients

- Fat Soluble Vitamins (A, D, E and K)- Introduction, functions, dietary sources, daily requirements and deficiency diseases.
- Water Soluble Vitamins (Thiamin, Riboflavin, Niacin, Folate, Vitamin B12 and Vitamin C)- Introduction, functions, dietary sources, daily requirements and deficiency diseases.
- Minerals (Calcium, Iron, Zinc and Iodine)- Introduction, functions, dietary sources, daily requirements and deficiency diseases.

Unit IV: Practical

- Conduct a market survey (On-line/ offline of nearby locality) and prepare a list of food stuffs and food products of the following food groups:
- Cereals, Millets, Pulses, Fruits, Vegetables, Milk and Milk Products, Fish Meat and Poultry Products.
- Weights and Measures: Standardization of household measures for raw and cooked foods.
- Food preparations using different methods of cooking and understanding the principals involved in it - Dry heat-frying, broiling, parching, baking) and Moist heat-boiling, stewing, cooking under pressure:
(One item from each method).
- Preparation of food exchange list of cereals/pulses/fruits/vegetables.

Text Books:

- *Srilakshmi. B, Food Science, New Age International (P) Limited Publishers.*
- *Srilakshmi. B, Nutrition Science, New Age International Pvt. Ltd.*
- *N. Shakuntala Manay, M. Shadaksharaswamy, Foods Facts and Principles, New Age International (P) Limited Publishers.*
- *Swaminathan. M, Advanced Text-Book on Food and Nutrition, Volume 1 and 2, The Bangalore printing and publishing co. LTD.*

Reference Books:

- *Bamji MS, Krishnaswamy K. Brahman GNV. Textbook of Human Nutrition, Oxford and IBH publish Co Pvt. Ltd.*
- *Norman. N Potter, Joseph H. Hotchkiss, Food Science, 5th edition, CBS Publishers, and Distributors.*
- *Mudambi S.R and Rajagopal M.V, Fundamentals of foods and Nutrition, New Age International Pvt. Ltd.*
- *Gopalan, C. Rama Sastry, B.V., and Balasubramanian, S.C., Nutritive value of Indian Foods, National Institute of Nutrition, ICMR, Hyderabad.*

E-Resources:

- <http://www.nutrition.gov>
- <http://www.usda.gov>
- <http://egyankosh.ac.in>
- <http://ecourses.icar.gov.in>

Model Questions:

1. Give an example of the fat-soluble vitamins. (**One word**)
2. Define Nutrition. (**Maximum 50 words**)

3. Discuss about the classification of carbohydrate. **(Maximum 250 words)**
4. Explain the classification and functions of food. **(Maximum 800 words)**

Minor (Paper-II) Semester III/IV

Child Development

Course Outcome:

- Students will be able to understand the crucial aspects of child development.
- Students will understand about the developmental patterns of child development.

Learning Outcome:

- The students will gain an insight on scientific methods of studying child development.
- The students will be aware of the stages of prenatal development and factors affecting pre- natal development.
- The students will understand the developmental patterns during early childhood years (0- 5years).
- The students will gain practical knowledge on development tasks in childhood.

Unit I: Fundamentals of Child Development:

- Child Development- Meaning, definition, principles, stages, and methods of studying child development.
- Prenatal Growth and Development - Meaning, significance and stages of prenatal growth and development, conception, period of ovum, period of embryo and period of foetus.
- Prenatal Environmental Influences- Maternal age, nutrition, drugs, irradiation, alcohol, smoking, maternal emotions, maternal health, Rh factor, diseases and birth hazards.

Unit II: Developmental Milestones (During First Five Years of Child's Life):

- Physical Development- Physical growth cycles, body size, body proportions, bones, teeth, muscles and fat, development of the nervous system.
- Motor Development – Meaning, principles and sequence of motor development.
- Speech Development – Meaning, pre-speech forms of communication, essentials in learning to speak, major tasks in learning to speak and speech disorders.

Unit III: Developmental Milestones (During First Five Years of Child's Life):

- Emotional Development - Meaning, common emotional patterns, and characteristics of childhood emotions.
- Social Development – Meaning, process and importance of early social experiences, factors influencing social development.
- Cognitive Development - Meaning and importance, factors influencing cognitive development.

Unit IV: Practical

- Assessing developments (physical/motor/emotional/social/cognitive/speech) using different methods of child study – interview schedule / observation schedule / anthropometry/ psychometry tests.
- Assessment of existing knowledge, attitudes and practices of parents and field functionaries (ANM/anganwadi workers/teachers) related to developmental milestones of children (any five samples).
- Plan and develop activities for children to facilitate motor and cognitive development through preparation of learning materials such as posters/charts/ toys etc.
- Plotting growth monitoring chart for children from one to five years and its interpretations. **Text Books:**

- *Hurlock E.B. - Child Development; New Delhi; McGraw Hill.*
- *Hurlock E.B. - Developmental Psychology; New Delhi; McGraw Hill.*
- *Chowdhury, A - Text Book on Child Development and Family Relations, New Delhi: Academic Excellence.*
- *Panda K.C. - Elements of Child Development; Kalyani Publishers.*
- *Kuppuswamy B -Text Book of Child Behavior and Development; India; Konark Publishers Pvt. Ltd.*

Reference Books:

- Jaya N., and Rajammal P.D. - A Text Book of Child Development. New Delhi: McMillan Publishers.
- Mussen P.H., Conger J.J., Kagan J. - Child Development and Personality; New York; Harpers and Row publishers.
- Weiner I.B., Elkind D. - Child Development: A Core Approach; John Wiley & Sons Inc.
- Papalia, Olds & Feldman - Human Development; McGraw Hill Humanities / Social Sciences/ Language.

E Resources:

- <https://www.choc.org/primary-care/ages-stages/3-years/>
- <https://www.betterhealth.vic.gov.au/health/>
- <https://raisingchildren.net.au/preschoolers/development/development>.
- <https://www.cdc.gov/ncbddd/childdevelopment/facts.html>
- <https://www.all4kids.org/news/blog/why-the-first-5-years-of-child>

Model Questions:

1. Period of ovum lasts for _days. **(One word)**
2. Explain about the principles of child development? **(Maximum 50 words)**
3. Discuss about the stages of prenatal development? **(Maximum 250 words)**
4. Discuss about the factors affecting the physical growth and development in children. **(Maximum 800 words)**

Minor (Paper-III) Semester V/VI

Family Resource Management

Course Outcome:

- Students will be oriented about the available human and non-human resources in the family and their management.
- Students will learn the importance of judicious management of resources and their conservation techniques for sustainability.

Learning Outcome:

- The students will gain an insight on family resource management and its application. LO2: The students will be aware of the management process.
- The students will learn about judicious utilization of resources management for conservation and sustainability.
- The students will get practical knowledge on event planning and management.

Unit I: Resource Management in Family Setting

- Family Resource Management- Concept, definition and scope of family resource management.
- Resources- Meaning, classification and characteristics of family resources, factors affecting utilization of resources.
- Decision making- Types of decisions, steps of decision making.

Unit II: Motivating Factors in Management and Management Process:

- Motivating Factors in Management- Motivation in management, theories of motivation,
Maslow's hierarchy of needs theory
- Motivating Factors- Values, goals and standards, interrelatedness of values, goals, and standards.
- Management Process- Definition and steps in management process: planning, organizing, controlling and evaluating, qualities of a good home maker.

Unit III: Resource Conservation:

- Money- Types of income, supplementing family income.

- Time- Concept and steps in time management, factors to be considered in making time and activity plan.
- Energy-Efforts, fatigue, work simplification techniques and Mundel's classes of change.
- Space – Meaning, importance, functional storage space management.

Unit IV: Practical

- Conduct a SWOC analysis of self/organization.
- Event planning for departmental activity (Celebration of any special day/seminar/workshop).
- Decision making through management games (Chess/tug of war/UNO).
- Plan and evaluate time activity chart for one day. **Text Books:**

- *Seetharaman P., Batra S. and Mehra P., Family Resource Management, CBS Publishers & Distributors, New Delhi.*
- *Nickell, P and Dorsey, J.M., Management in family living, CBS Publishers, and Distributors.*
- *Gross I.H and Crandall E.W., Management for Modern Families.*
- *Home Management–Education Planning Group, Arya publishing house, Delhi.*

Reference Books:

- *Vergese, Ogale and Srinivasan, Home Management.*
- *Mann M.K., Home Management for Indian Families.*
- *Biswal, G.E., Family Resource Management. Himalaya Publishing House.*
- *Mallick P., Text book of Home Science.*
- *Devdas and Jaya, Introduction to Home Science.*

E-Resources:

- <https://epgp.inflibnet.ac.in/Home/ViewSubject?catid=8x0nJkh/R0vHkX1U70Z/CQ==>.
- <https://nios.ac.in/media/documents/srsec321newE/321-E-Lesson-10.pdf>
- https://www.brainkart.com/article/Definition-and-Concept-of-Family-Resource-Management_33507/ **Model Questions:**

1. ----- is the first process in the management process. (**one word**)

2. Write the meaning and types of decision making in a family. (**maximum 50 words**)
3. Describe the work simplification process. (**maximum 50 words**)
4. Discuss about the concept, definition, and scope of Family Resource Management. (**maximum 800 words**)

Minor (Paper-IV) (With/Without Research)

Semester VII

Home Science Extension Education

Course Outcome:

- To enrich students about relevance of extension education and its application.
- To understand about the application of extension teaching methods for teaching and training purpose.

Outcome Learning:

- The students will be enriched with the principle and behavioral changes brought about by extension education.
- The students will understand extension education in community development.
- The students will be aware of the methods of teaching in extension education.
- The students will learn about the educative materials preparation of for different training purposes and get experience of various extension organizations.

Unit I: Introduction to Extension Education:

- Definition, needs, objectives and scope of extension education.
- Philosophy and principles of extension education.
- Behavioral changes through extension education.

Unit II: Role of Home Science Extension Education in Community Development:

- Meaning, definition and areas of community development. Home science extension education and its inter-relationship with community development.

- Role & qualities of Home Science extension workers.
- Home Science Extension Programmes- Mission Shakti, MGNREGA, National Mission for empowerment of women, ICDS, Green India Mission (GIM).

Unit III: Teaching Methods in Extension Education:

- Classification of Extension Teaching Methods- Individual, group and mass methods. individual methods: farm and homevisits, office calls, telephone calls, personal letters.
- Group Methods- Method demonstration, campaign, puppetry, general meeting result demonstration, group discussion, tours, field trips, lecture, seminar, and workshop, advantages and disadvantages.
- Mass Methods- Leaflets and folders, exhibition, circular letter, radio, television, bulletins, story film show, and news articles, advantages & disadvantages.

Unit IV: Practical

- Prepare a leaflet/poster on various issues related women, children and environment.
- Prepare a project report within one thousand words on women/children/environment.
- Prepare a flow chart on the steps of method demonstration by extension worker.
- Visit to Mission Shakti centers/ NGO and prepare a report (Objectives, Functions, Achievements)

Text Books:

- *V. K Dubey, Indira Bishnoi, Extension Education and Communication, New Age International Publishers.*
- *S. V Supe, An Introduction to Extension Education, Oxford and Publishing Co. Pvt. Ltd*
- *Nibedita Mishra and Gayatri Biswal, Text Book of Home Science Extension Education, Recent Edition.*

Reference Books:

- *Text book of Home Science- Premlata Mallick.*
- *Education and Communication for Development, O.P Dahama, O.P. Bhatnagar.*

E-Resources:

- <https://Timesagriculture.Com/Role-Of-Home-Science-Extension-In-Education/>
- <https://www.researchgate.net/publication/>
- <https://alhafeezcollege.org/alfz/assets/uploads>
- <https://www.rohtasmahilacollegessm.ac.in/wp-content/uploads/sites>
- <https://www.egyankosh.ac.in/bitstream/123456789/53665/3/block-1.pdf>

Model Questions:

- Q.1- The term extension education is derived from____(one word)
- Q.2- What are the qualities of extension worker. (Answer maximum 50 words)
- Q.3- Explain about the method demonstration. (Answer maximum 250 words)
- Q.4- Define extension education and discuss about the principles of extension education. (Answer maximum 800 words)

Minor (Paper-V) (With/Without Research)

Semester- VII

Introduction to Textiles

Course Outcome

- Students will develop an idea about different textile fibers.
- Students will develop the skills to analyse yarn construction techniques.

Learning Outcome:

- The students will learn about classification, usage and production of textile fibres.
- The students will know the manufacturing process and yarn construction techniques.
- The students will gain an insight on techniques of fabric construction, dyeing and printing.
- The students will be enriched about different types of dyeing and printing techniques.

Unit I: Introduction to Textile Fibres:

- Definition of textile fibres, terminology and classification of textile fibres.
- Production, Manufacturing Process, Properties and usage of fibres- Natural fibre (cotton, silk and wool).
- Production, Manufacturing Process, Properties and Usage of Fibres- Man-made fibers (rayon (Viscose), polyester, nylon).

Unit II: Yarn Construction

- Types and Classification of Yarns- Simple, ply yarns, cord yarns, novelty yarns. twist in yarn:
“s” and “z” twist.
- Staple yarn formation.
- Woolen and worsted yarn formation process.
- Chemical spinning (wet, dry, melt)

Unit III: Techniques of Fabric Construction

- Weaving- Meaning, essential weaving operation, classification of weaves (plain, basket, ribbed, twill, satin, sateen)- structure, properties, usages.
- Dyeing and Printing Methods – Raw stock dyeing, skein-dyeing, piece dyeing, cross dyeing, tie-die, batik dyeing, printing methods – direct printing, block printing, stencil printing and printing by machine.

Unit IV: Practical

1. Fiber identification: Identification of natural and manmade fibers by following three methods - microscopic test, burning test.
2. Characteristics of Fabric (following standards): Fabric count using pick glass
3. Printing of fabrics using:
 - i. Direct style - Block, stencil and screen
 - ii. Resist style - Tie and dye, batik
4. Weaves- Prepare sample weave on plain, basket, ribbed, twill, satin, sateen.

Text Books:

- *Textiles- Fiber to fabric (6th Edition) by Corbman P.B. (1985). Gregg Division /Mc Graw Hill Book Co, US.*
- *Advanced Drafting and Draping by Manmeet Sodhia. New Delhi.*
- *Household Textiles & Laundry Work by Durga Deulkar. Atma Ram & Sons, New Delhi.*

Reference Books:

- *Essentials of Textiles (6th Edition) by Joseph, M.L. Holt, Rinehart and Winston Inc, Florida.*
- *Textile Science by Vilensky G. CBS Publishers and Distributors, Delhi.*
- *Understanding Textiles by Tortora, G. Phyllis. Mc Millanm Co. USA.*
- *Textbook of Fabric Science: Fundamentals to finishing by Sekhri S. (2013). PHI Learning, Delhi.*

E-Resources:

- <https://csauk.ac.in/wp-content/uploads/2022/08/Textile-fiber-NEW.pdf>
- <https://gphisar.ac.in/wp-content/uploads/2022/09/TEXTILE-FUNDAMENTALS.pdf>
- <https://nios.ac.in/media/documents/srsec321newE/321-E-Lesson-23.pdf> □ <https://egyankosh.ac.in/bitstream/123456789/92831/1/Unit-8.pdf>

Model Questions:

- 1 is known as queen of fiber. **(One Word)**
- 2- Short note on classification of weaving. **(Maximum 50 words)**
- 3- Discuss about the steps of chemical finishing process. **(Maximum 250 words)**
- 4- Explain about the cotton fibers and discuss about the preparation of cotton fibers. **(Maximum 800 words)**