

# **PH.D. COURSE WORK IN HOME SCIENCE**

## **SYLLABUS (2023-24)**



P.G. DEPARTMENT OF HOME SCIENCE

SAMBALPUR UNIVERSITY

JYOTI VIHAR

**Courses of Studies for the Ph.D. Course Work Degree (Home Science)  
Under Semester Course Credit System of Teaching and Examination  
Effective from January 2023**

**Mission**

<b>M1</b>	Educate society for generations by providing transformative education with deep disciplinary knowledge and concern for environment.
<b>M2</b>	Develop problem solving, leadership and communication skill in students to serve organisation of today and tomorrow.
<b>M3</b>	Aim of the holistic development of the students by giving them value based ethical education with concern for society.
<b>M4</b>	Foster entrepreneurial skills and mindset among the students by giving life- long learning to make them responsible citizen.

**Programme Education Objectives (PEO)**

<b>PEO1</b>	To understand and appreciate role of Home Science, in the development and well-being of individuals, families and communities.
<b>PEO2</b>	To learn about the sciences and technologies which enhance the quality of life of the people
<b>PEO3</b>	To acquire professional and entrepreneurial skills for economic empowerment of student in particular, and community in general
<b>PEO4</b>	To prepare young students for studies, research and extension work

**Programme Outcomes (PO)**

<b>PO1</b>	<b>Environment and sustainability:</b> critically evaluate impact of household and industrial practices on environment. Appreciate use of sustainable practices for improved physical, emotional, social, psychological environment at micro/macro level.
<b>PO2</b>	<b>Home Science and Society:</b> apply knowledge and competencies to impart knowledge, identify, analyze and address family and societal issues to improve quality of life of individual, family and society as a whole, also covering marginalized and vulnerable groups of society.
<b>PO3</b>	<b>Communication-</b> use soft skills for clear, accurate, unambiguous effective communication using verbal and non verbal skills at inter/ intra personal and professional level.
<b>PO4</b>	<b>Ethics and Integrity-</b> apply ethical practices while data collection, conducting experiments, involving human beings as well as animals, delivering professional capabilities.
<b>PO5</b>	<b>Planning Skills:</b> apply skills in designing, implementing, monitoring and valuating programmes effectively for individuals, family, community and for vulnerable groups of society
<b>PO6</b>	<b>Leadership Skills:</b> Apply leadership skills, inspiring , taking responsibility, delegating tasks while working in a team, communicating with other teams, providing guidance to lesser skilled in various settings be it family, industry or institutions or carrying out research projects.
<b>PO7</b>	<b>Practical Work-</b> provides opportunity to students to get acquainted with innovative research projects and develop skills to plan and undertake intervention projects.
<b>PO8</b>	<b>Life Long Learning-</b> ability to reason out, learn and improve oneself in the changing dynamic scenario by strengthening the strength and weakening of weakness for sustainable developmental needs, technological changes, career requirements and new avenues.

## COURSE AT A GLANCE

CourseNo.	Title	Credit Hour	Mark Distribution Internal+External	Total Mark
<b><u>1<sup>st</sup> Semester</u></b>				
HSC. 611	Current Trends in Food & Nutrition	4TheoryCompulsory)	40+60	100
<b>Elective Paper – A Student shall opt for any one of HSC 612(A/B/C )</b>				
HSC. 612 A	Family Studies	4(Theory Elective )	40+60	100
HSC. 612 B	Community & Public health Nutrition	4(Theory Elective )	40+60	100
HSC. 612 C	Child & Family welfare	4(Theory Elective )	40+80	100
HSC. 613	Research Methodology (Quantitative Analysis and Computer Application)	4(Theory Compulsory)	40+60	100
HSC. 614	Data Analysis and computer application Practical	4(Practical)		100
HSC 615	Research and Publication Ethics(RPE)	2(Theory)	20+30	50
HSC 616	Review of Research papers published in Referred Journals	4( Review of Report-2CH and Seminar-2CH)	50+50	100
<b>Total</b>		<b>22</b>		<b>550</b>

**Instruction to the Paper Setter**

1. In theory papers question will be set unit-wise with maximum 2 questions from each unit (Total 8 questions, students shall be asked to answer one question from each unit with 50% choice from each unit. (Total 4 questions.)
2. Maximum 60% of the questions shall be long answered type and 40% shall be short answered type.

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**Detail Courses of Studies**

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**HSC-611- CURRENT TRENDS IN FOOD & NUTRITION4CH**

**Course outcomes**

CO1	Remember and understand the basic concepts/Principles of <b>Current Trends In Food &amp; Nutrition</b>
CO2	Understand the Nutritional factor and active principles of different foods
CO3	<i>Apply the knowledge in understanding the practical problems faced by the people in different age group.</i>
CO4	<i>To know about different micro and macro nutrients and nutritional requirements during various stages of lifecycle.</i>

**Objectives:**

1. To understand the Nutritional factor and active principles of different foods.
2. To enhance knowledge of students about physiological changes and nutritional requirements during various stages of lifecycle.
1. To understand problems of different age groups and itsmanagements.

**Expected Outcome:**

*Detail knowledge on nutrition across lifespan can be obtained and different nutritional problems can be tackled easily.*

**Unit-I**

**Food Science & Application:** Nutritional factor and active principles and changes of active Principles during cooking and their nutritional implications for the following: Cereals, Pulses, vegetables & fruits, nuts & oilseeds, milk & Milk Product, beverages, spices & condiments, meat, fish, poultry & egg, fats & oils. Application of natural & synthetics flavours & colours, latest trend in the concept of Functional foods, their role in designer foods, nutraceuticals, phytochemicals, antioxidants, genetically modified foods.

**Unit-II**

**Biochemical Aspects of Macro Nutrients:**

Carbohydrates: digestion, absorption & metabolism& effect of deficiency Proteins: digestion, absorption & metabolism& effect of deficiency, protein quality evaluation, amino acids & their role in health & diseases ,Fat: digestion, absorption & metabolism&, types of fatty acids & their

role in health & diseases Energy Metabolism: BMR, SDA and energy requirement, respiratory quotient & metabolism in starvation, interrelation between the nutrients

### Unit-III

#### Biochemical Aspects of Micro Nutrients:

Vitamins: Functions, digestion, absorption & metabolism of fat soluble & water soluble vitamins, effect of deficiency & interrelationship. Minerals and Trace elements: Functions, absorption, metabolism, effect of deficiency & interrelationship, Water & electrolyte balance

### Unit-IV

#### Nutrition through Life cycle:

RDA and nutritional importance during pregnancy, Lactation, infancy & childhood years, adolescents, adulthood and nutrition in aging, Nutritional problems in changing society- Psychosocial influence on food habits, food & gender, food taboos, food choice, and Problem of malnutrition

#### Recommended Books

1. Pauline C. Paul & Helen H. Palmer, Food Theory & application, John Wiley & sons
2. Gladys G. Peckham, Foundations of Food Preparation, Macmillan Publication
3. Seema Yadav, Food hazards & Food Hygiene, Anco publication Pvt. Ltd.
4. Agarwal O.P. Agarwal's Text Book of Biochemistry, Goel Publishing House, Meerut
5. Stanley Davidson, Passmore, R. Brock, J.F. and Truswell A.S. Human Nutrition & Dietetics, the English language Book Society & Churchill Livingstone
6. Shils Maurice, E. Modern Nutrition in Health & diseases, Young Vernon publishers
7. WHO, Trace elements in Human Nutrition & Health
8. Margaret Mc Williams, Nutrition for growing Years- John Wiley & Sons
9. Paul Field House, Food & Nutrition, Customs & culture, Chandan publishers
10. Z.S.C. Okoye Biochemical aspects of Nutrition, Prentice Hall of India

HSC 612A FAMILY STUDIES

4 CH

#### Course Outcomes

CO1	Remember and understand the basic concepts/Principles of <b>Study of Family in Society</b>
CO2	To gain knowledge on different problems related to the family and its solution.
CO3	To know different Legal Rights related to women family issues.
CO4	Execute/create the project or field assignment as per the knowledge gained on family and society.

#### Objectives:

1. To understand about the family life in India & the concept of family life education.
2. To acquire knowledge on Children & Women's Rights.

#### Expected Outcomes

As family is in the transition in the present situation, knowledge on the study of family in society will encourage students to lead a better family life as well as prepare them to face the challenges of obstacles in family.

**Unit- I**

Concepts and conceptual frame works for understanding family. Normative family patterns: correlates, changes and implications. Alternate family patterns and policies. Family life enrichments: Rights and responsibilities of Individual and family. Policies towards enrichment of family life

**Unit- II**

Crisis in family: Prolonged illness, Suicide, mental illness, unemployment, divorce widows. Researches on families with problems: utility, limitation & future direction. Disaster and Intervention: Dynamics of families facing environmental disaster and intervention. Intervention with rural families

**Unit- III**

Family Interventions: Assessment of interventions: crisis intervention; concepts, types, components, techniques, self-help groups: concepts, theories, strategies, methods and skills. Family rehabilitation; Need, approaches, tools and role of social worker.

**Unit-IV**

Old age: Physical and psychological problems in the old age. Need for a policy for ageing. Welfare programmes for the aged. Health status of women and children: , Need for a health policy. Welfare programmes for the women, children and youths. Need for the family – focus in the programmes.

**Recommended Books:**

1. M.Desai eds.Enhancing the Role of Family as an Agency for Social and Economic Development – Unit for Family Studies.
2. I.P.Desai Some Aspects of Family in Mahua., Asia Publ. House.
3. Mrs. Gore Urbanization and Family Change in India –Popular Prakashan.
4. M.Desai Eds Family and Intervention – Some case Studies – TISS Publisher.
5. M.Desai Eds Family System and Policies Course Compendia (ed TISS).
6. Harper and Bross ,Family,It’s Function and Destiny.
7. Kapadia.The Indian family – in the Change and Challenges of the Seventies
8. Park and Park.Text Book of preventive and social medicine.

**HSC 612B- COMMUNITY AND PUBLIC HEALTH NUTRITION**

**4CH**

**Course Outcomes**

CO1	Remember and understand the basic concepts/Principles of <b>Community Health &amp; Nutrition</b>
CO2	Analyse the various concepts to understand them through case studies
CO3	Apply the knowledge in understanding the practical problems in the community.
CO4	Execute/create the project or field assignment as per the knowledge gained on community health and nutrition.

**Objectives**

1. To understand the concept of community health nutrition & be familiar with the national health care delivery system.
2. To understand the economic consequences of malnutrition & to learn about the strategies for improving the nutritional status of communities.

**Expected Outcome:**

Knowledge in public health nutrition will make student familiar with concept and current concern of public health nutrition & its implication on the quality of life.

**Unit-I**

Nutrition for the Community: Nutrition of the individual, family and community – general concept, nutritional problems in changing societies with special reference to micronutrient deficiencies- prevalence, causes and remedies. Effects of malnutrition through the life cycle, Assessment of nutritional status – direct and indirect methods

**Unit-II**

Nutrition education: Definition, planning, conducting and evaluation. Tools of nutrition education- merits and demerits, curriculum designs for nutrition education, nutrition education through health care systems. Formulation of realistic developmental health plans based on needs with special reference to vulnerable group population and women. Healthy nutrition through local produce by adequate intake of nutritious diet.

**Unit-III**

Population and Food availability: Size and growth rate of population in India. The food problem and policy, Measures to solve problem, New agricultural strategy, Food security in India, estimates of hunger, problems of Food security in India, food deprivation, Effective food security management, Intra family food distribution, food fads and fallacies, Demography, vital statistics and population control.

**Unit-IV**

Nutrition Intervention Programmes and Nutritional Health Programmes ,National- ICDS, Nutritious noon meal scheme, NNMB, PHC, MCH, MNP ,International - CARE, WHO, FAO, UNICEF. National Health Programmes- NTCP, NFCP, NLMP, MEP, AIDS control programme, National, Nutrition policy ,National Immunisation Programme and IDDC.

**Recommended Books**

1. Philips Foster and Howaid D. Leathers, (1999), The World Food Problem Tackling the Causes of Under Nutrition in the Third World, second edition. Lynne Rienner Publishers, Inc.
2. World Food Programme Enabling Development Food Assistance In South Asia, Publication Prepared By WFP Regional Office For South Asia.
3. Lillian Langseth, (1996), Nutritional Epidemiology- Possibilities And Limitations, International Life Sciences Institute.
4. Ghai O.P. And Gupta.P,(1999), Essential Preventive Medicine- A Clinical And Applied

Orientation, Vikas Publishing House Pvt. Ltd.

5. The State Of Food Insecurity In The World(2000), Food AndAgriculture Organizations Of The United Nations, Rome, Italy.

6. National Workshop On Alleviating Micronutrient Deficiency- Role Of Horticulture And Home Gardens – Background Papers Organized By M.S.Swaminathan Research Foundation, Chennai- 600113, Friday 29, 2001.

7. Food And Nutrition Bulletin,(1997), Supplement- Ending Malnutrition By 2020 An Agenda For Change In The Millennium.

8. National Conference On Opportunities And Challenges For Preventing Micronutrient Malnutrition Through ICDS, (1997), Sep 21-22, 2000. Conference Proceedinngs.

9. Preventing Micronutrient Malnutrition- A Guide To Food Based Approaches, (1997), A Manual For Policy Makers And Programme Planners Prepared By Food And Agriculture Organizations Of The United Nations And International Life Sciences Institute.

10. Rueldar Datt And Sundaram K.P.M, (1997), India Economy, S. Chand And Company Ltd., Ram Nagar, New Delhi-110055.

**HSC 612C- CHILD & FAMILY WELFARE**

4CH

**Course Outcomes**

CO1	Remember and understand the basic concepts/Principles of Child and <b>Family welfare</b>
CO2	To gain knowledge on different problems related to the child and family and its solution.
CO3	To know different Legal Rights related to child and family issues.
CO4	Execute/create the project or field assignment as per the knowledge gained on child and family .

**Objectives:**

1. To know about different child and family welfare programmes in India.

2. To acquire knowledge on Children & Women's Rights.

**Expected Outcomes**

As family is in the transition in the present situation, knowledge on different welfare programmes and policies on child and family, will encourage students to lead a better family life as well as prepare them to face the challenges of obstacles in family.

**Unit-I**

**Social welfare:** Distinction between Social welfare and Services ,objectives and needs of welfare services ,Social reform, social security, main characteristic of social security programme, factors determining social welfare programmes; social welfare models- family welfare, marriage counseling, maternal care and family planning , family life education, old age care.

**Unit-II**



**Child Welfare:** State of children, U.N. Convention on rights of the child, World summit for children, child welfare in Indian-Constitutional legislative provision, National policy for

children's health and nutrition and its implementation .ICDS, NIPCCD and other programmes for the welfare of children –Crèches/Day Care Centers/Early Childhood Education/ Compulsory and free education for children, child labour prohibition act, disable children act, girl child protection scheme.

### **Unit-III**

**Women welfare:** Position of women in India, Welfare programme for women at the center and state level- hostel for working women, Employment and income generating programmes, Women's training centers for rehabilitation for women in distress, legislation related to Women's welfare-CEDAW (Convention on elimination of all forms of discrimination against women, maternal benefit Scheme, pension Scheme for widows, Dowry prohibition Act-WRLH (Women's right to life and health)

### **Unit-IV**

#### **Health and Family Welfare**

National Health policy and programmes and their implementation. National programme for control of Blindness, Leprosy, Aids, Goiter, and Diabetes etc, National Mission on immunization, Nutrition programmes, Health Schemes (at the centre and state)measures to promote family welfare programmes,population control measures. National & International Agencies working for Health & Family welfare.

#### **Recommended Books:**

1. J.P. Singh Eds, The Indian Women: Myth and Reality – Gyan Publ. House.
2. Rehana Ghadially Eds, Women in Indian Society – Sage publication.
3. Ashok Kumar Eds, Women in Contemporary Society – Vol. I and Vol. II – Anmol Publication.
4. Verhellen Eugeen ,Understanding Children's Right –.
5. Verhellen Eugeen ,Monitoring Children's Right -.
6. Preffer George & D.K.Behera ,Contemporary Society – Childhood and Complex Order – – Monak Publ.
7. D.K.Behera ,Children and Childhood in our Contemporary Society — Kamal – Raj Enterprises.
8. R. Indira and D.K.Behera , Gender and society in India – Vol – I and Vol – II.
9. C. Gopalan & Surinder Kaur Eds ,Women and Nutrition in India – NFI Publication.
10. Alfred D'Souza Eds Children in India – Manohar Publication.
11. Dr. D.R. Sachadeva ,Social Welfare Administration in India — Kitab Mahal.
12. Profile of under Nutrition and under Development – Scientific Report No 8 NFI Publ.

**HSC-613 RESEARCH METHODOLOGY****4 CH****(Quantitative Analysis and Computer Application)****Course Outcomes**

CO1	Understand the basic concepts/Principles of <b>Research Methodology</b>
CO2	Analyse the various concepts to understand them through different research methods.
CO3	Apply the knowledge in understanding the practical problems during research work
CO4	Execute/create the project and field works as per the knowledge gained.

**Objectives:**

1. To understand the scientific approaches to research methodology.
2. To learn different types of research designs, methods of data collection and importance of scaling technique.
3. To learn basic statistical procedures for research.
4. To understand applications of various statistical techniques for analysis and interpretation of data.

**Expected Outcome:**

1. Gaining knowledge on Research Methodology will enable the students to do research properly in thrust areas of Home Science.
2. Gaining knowledge on Statistics & Computer Application will enable students to do qualitative and quantitative data analysis of their research work.

**Unit-I**

Research design, Sampling design, Methods of data Collection, Classification and Tabulation of data, Diagrammatic representation of data, Measures of central tendency, Measures of dispersion, Skewness, Kurtosis,

**Unit-II**

Testing of Hypothesis, Tests: t test,  $X^2$  (Chi-square) and F-tests, Z test, Analysis of variance, covariance, Simple correlation, Multiple correlation, regression analysis. Scientific report writing.

**Unit-III**

Functional units of a computer, Windows operating system, Managing files and folders, Word editing and formatting, working with tables, Creating and printing a presentation, producing a slide show, Editing and formatting worksheets, performing basic calculations, working with chart. Using the internet and the world wide web.

**Unit-IV**

Role of Research methods and statistics in Home-Science discipline, Thrust areas in the field research in various branches of Home Science. Uses of MS excel – basics, creation of data file, analysis of data by various statistical methods and creation of charts & graphs. Use of SPSS – basics, creation of data file, analysis of data by descriptive statistics, chi square & t test, correlation & regression one way ANOVA etc

**Recommended Books:**

1. Bhattacharyya, D.K., Research Methodology Excel Books, New Delhi, II Edition,
2. Gupta, S.C. and Kapoor, V.K S. Fundamentals of Mathematical Statistics, Chand, New Delhi.
3. Sinha, P.K. and Sinha, Priti Computer Fundamentals, BPB Publication Comdex Computer Course Kit, BPB Publication.
4. Russell, A. Stultz ,Learn Microsoft office, ,
5. Paul Young.,Scientific Social survey and Research -
6. T.S.Wilkinson and P.L.Bhandarkar Methodology and Techniques of Social Research - .Himalaya publishing house
7. C.R.Kothari Research Methodology – Methods and Techniques Wiley eastern limited
8. D.N.Elhance Fundamentals of Statistics-.
9. Garret and Word.Statistics in Psychology and Education-
10. S.P. Gupta.,Statistical Methods –Sultan Chandand Sons Publisher NewDelhi
11. Kulbir Singh Sidhu Methodology of Research.
12. M. Singhal,Elements of statistics- Theory and Practice-
13. S.K.Kapur ,Elements of practical Statistics –.
14. C.B.Gupta.,An Introduction to Statistical methods –

**HSC-614**

**Data Analysis & Computer Application Practical**

**4 CH**

1. Formulation of Research proposals.
2. Preparation of interview schedule, Questionnaire and other tools for collection of data.
3. Classification and tabulation of data.
4. Diagrammatic and graphical presentation of the data.
5. Statistical analysis: use of different statistical tools in the analysis of data.
6. Fundamentals of computer: Basic components, computing concepts, disk operating system, Copy, delete, restore, format and other important commands, operation of windows, MS word, MS Excel, MS Power point etc.
7. Presentation of data: Preparation of line graph, histogram, bar diagram, pie diagrams etc. by the help of computer.
8. Computer application in data analysis – Calculation of average, Standard deviation, Correlation, regression, analysis of variance and other statistical tests (chi-square, ‘t’ test and ‘z’ test) by the help of computer.
9. Any other related topics to be decided by the teachers’ council.

**Books recommended:**

1. A Hand Book of Methodology of Research – R.P.Devdas and Dr K.Kulandeivel – Sri Rama Krishna Mission Vidyalaya College of Education.
2. Research Methodology – Methods and Techniques C.R.Kothari – Wiley Eastern Ltd.

3. Methodology and Technique of Social Research – Wilkinson and Bhandarkar – Himalaya Publ. House.
4. Research method in Behavioural Science – S.M.Mohesin – Orient Longman Publication.
5. Statistical Methods-S.P.Gupta

### **Unit 1: Philosophy and Ethics**

1. Introduction to Philosophy: definition, nature and scope, concept and branches
2. Ethics: definition, moral philosophy, nature of moral judgements and reactions.

### **Unit 2: Scientific Conduct**

1. Ethics with respect to science and research,
2. Intellectual honesty and research integrity,
3. Scientific misconducts: Falsification, Fabrication and Plagiarism(FFP)
4. Redundant Publications: duplicate and overlapping publications, salami slicing
5. Selective reporting and misrepresentation of data

### **Unit 3: Publication Ethics**

1. Publication Ethics: definitions, introduction and importance
2. Best practices / standards setting initiatives and guidelines : COPE, WAME etc.
3. Conflicts of interests
4. Publication misconduct: definition, concept, problems that leads to unethical behaviour and vice versa, types
5. Violation of publication ethics, authorship and contributorship,
6. Identification of publication misconduct, complaints and appeals
7. Predatory publishers and journals

### **References**

1. P Chaddah, (2018) Ethics in Competitive Research: Do not scooped, do not get plagiarized , ISBN: 978-9387480865
2. Indian National Science Academy(INSA) Ethics in Science Education , Research And Governance (2019)

## **HSC-616 REVIEW OF RESEARCH PAPERS PUBLISHED IN REFERRED JOURNALS 4CH**

### **Review of Report-2CH and Seminar-2CH**

Each student has to select a topic for the review work immediately after admission. He/She shall undertake the work under the supervision of a recognized teacher of the Department. On the basis of the review of literature specifically research papers published in referred Journals on the topic selected, the student has to prepare a report and submit the same for evaluation by the teachers council. He/ She has to make a presentation of the review report

before the faculty, Research scholars and students in the Department. ***M.A/M.Sc in Home Science*** Evaluation of the review report and seminar will be done by the teacher's council of the department.