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Dr. Babasaheb Ambedkar Marathwada University



Chhatrapati Sambhajinagar –431 004, Maharashtra, India

Pre Ph.D. Course Work Subject Wise Curriculum List of Under the Faculty Of Interdisciplinary Studies

Sr. No.	Name of the subjects
1.	Performing Arts
2.	Social Work
3.	Education
4.	Physical Education
5.	Fine Art
6.	Library and Information Science
7.	Home Science
8.	Liberal Art
9.	Music

Course-1: RESEARCH METHODOLOGY IN HOME SCIENCE

Credits: 4

Marks: 100

Course Objectives

The course aims to:

1. Develop advanced understanding of scientific research in Home Science.
2. Enable scholars to identify and formulate significant research problems.
3. Develop competency in research design, sampling and data collection.
4. Develop skills in quantitative and qualitative research.
5. Familiarize scholars with statistical and computer-based data analysis.
6. Develop competence in scientific writing, interpretation and presentation of research findings.

Unit I – Foundations of Research in Home Science

- Meaning, nature, scope and characteristics of scientific research.
- Research as a tool for advancement of Home Science.
- Nature of multidisciplinary and interdisciplinary research in Home Science.
- Identification and selection of research problems.
- Research gap and researchable questions.
- Research problem, objectives and research questions.
- Conceptual and operational definitions.
- Variables and their classification.
- Independent, dependent, intervening and extraneous variables.
- Conceptual and theoretical framework.
- Formulation of hypotheses.
- Types of hypotheses.
- Null and alternative hypotheses.
- Characteristics of a good hypothesis.

Unit II – Research Designs and Methods

- Concept and importance of research design.
- Exploratory, descriptive and diagnostic research.
- Experimental and quasi-experimental research.
- Historical research.
- Survey research.
- Case study method.
- Correlational research.
- Cross-sectional and longitudinal studies.
- Mixed-method research.
- Qualitative research approaches.
- Quantitative research approaches.
- Action research and community-based research.
- Participatory research.
- Interdisciplinary research design.

Unit III – Sampling and Data Collection

Sampling

- Population, universe and sample.
- Sampling frame.
- Sample size determination.
- Probability sampling:
 - Simple random sampling

- Systematic sampling
- Stratified sampling
- Cluster sampling
- Multistage sampling
- Non-probability sampling:
 - Purposive sampling
 - Convenience sampling
 - Quota sampling
 - Snowball sampling
 - Volunteer sampling

Data Collection

- Primary and secondary data.
- Observation.
- Interview.
- Questionnaire.
- Schedule.
- Focus Group Discussion.
- Case study.
- Rating and scaling techniques.
- Anthropometric measurements.
- Dietary assessment methods.
- Food consumption surveys.
- Sensory evaluation techniques.
- Textile/fabric evaluation methods.
- Psychological and behavioural assessment tools.
- Pilot study and pre-testing.
- Reliability and validity of research instruments.

Unit IV – Statistical Analysis and Interpretation

- Classification and tabulation of data.
- Frequency distribution.
- Measures of central tendency.
- Measures of dispersion.
- Normal distribution.
- Sampling distribution.
- Standard error.
- Correlation and regression.
- Parametric and non-parametric tests.
- T-test.
- Chi-square test.
- ANOVA.
- MANOVA – basic concept.
- Factorial designs – basic concept.
- Post-hoc tests.
- Effect size and confidence intervals.
- Interpretation of statistical results.
- Introduction to statistical software:
 - MS Excel
 - SPSS
 - R – basic concepts
- Data visualization and graphical presentation.

- Interpretation versus discussion of findings.

Unit V – Scientific Writing and Research Communication

- Review of literature: purpose and methodology.
- Systematic literature search.
- Research databases and scholarly search engines.
- Citation and referencing systems.
- APA referencing style.
- Bibliographic management tools.
- Research article structure.
- Thesis/dissertation structure.
- Abstract and synopsis writing.
- Writing results and discussion.
- Tables, figures and graphs.
- Scientific presentation and poster presentation.
- Plagiarism and similarity checking.
- Use of AI tools in academic research.
- Responsible use of generative AI.
- Research data management.
- Open access and scholarly communication.

Course-3: ADVANCED AND EMERGING AREAS IN HOME SCIENCE

Credits: 3

Marks: 50

This course is designed as a **common advanced-level course for all Home Science researchers**, irrespective of their specialization.

Unit I – Advanced Nutrition and Food Science

- Food Groups, Micro & Macro Nutrients
- Current trends in human nutrition.
- Functional foods and nutraceuticals.
- Probiotics, prebiotics and synbiotic.
- Phytochemicals and bioactive compounds.
- Value-added and fortified foods.
- Millets and traditional foods.
- Food processing and preservation.
- Sensory evaluation.
- Food safety and quality assurance.
- Nutrition across the life cycle.
- Public health nutrition.
- Community nutrition interventions.
- Nutrition education and behaviour change.
- Nutrition epidemiology – basic concepts.

Unit II – Advanced Human Development and Family Studies

- Contemporary perspectives in human development.
- Development across the life span.
- Early childhood care and education.
- Adolescent development.
- Parenting and family relationships.
- Family dynamics and changing family structures.
- Women, family and society.
- Ageing and gerontology.
- Mental health and well-being.
- Social and emotional development.
- Family counselling.
- Children and vulnerable groups.
- Gender and empowerment.
- Contemporary family issues.

Unit III – Textiles, Clothing and Fashion Studies

- Advanced textile science.
- Fabric Manufacturing
- Functional and smart textiles.
- Technical textiles.
- Sustainable and eco-friendly textiles.
- Natural, regenerated and synthetic fibres.
- Textile surface enrichment.
- Traditional Indian textiles and crafts.
- Sustainable fashion.
- Circular economy in textiles and apparel.
- Textile waste management.
- Clothing comfort and ergonomics.

- Apparel product development.
- Digital technologies in fashion.
- Consumer behaviour in fashion.

Unit IV – Resource Management, Interior and Environmental Studies

- Family resource management.
- Time, energy and financial management.
- Consumer behaviour and consumer education.
- Ergonomics and work efficiency.
- Housing and interior environment.
- Sustainable housing.
- Universal design and accessibility.
- Environmental sustainability.
- Energy-efficient homes.
- Waste management.
- Green buildings and healthy indoor environments.
- Disaster management and household preparedness.

Unit V – Extension Education, Community Development and Emerging Areas

- Extension education theories and models.
- Community development.
- Participatory approaches.
- Women empowerment and livelihood development.
- Skill development and entrepreneurship.
- Self-help groups and social enterprises.
- Digital extension and social media.
- ICT in Home Science.
- Community-based interventions.
- Impact assessment and programme evaluation.
- Technology transfer.
- Entrepreneurship in Home Science.
- Innovation and incubation.
- Sustainable development goals and Home Science.
- Artificial Intelligence and digital transformation in Home Science.
- Interdisciplinary and transdisciplinary research.



ASA

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