

# **TANTIA UNIVERSITY, SRI GANGANAGAR**

Syllabus Entrance Examination for Ph.D.

## **Subject- HOME SCIENCE**

**Maximum Marks-100**

**Part A- 50 (Research Methodology)**

**Part B- 50 (Subject Wise)**

### **PART-A**

#### **Research Methodology and Statistics**

- UNIT 1: Meaning of Research  
Aims, nature and scope of research  
Prerequisites of research
- UNIT 2: Research Problem  
Meaning of research problem Sources of research problem Characteristics of a good research problem  
Hypothesis: Meaning and types of hypothesis. Research proposal or synopsis.
- UNIT 3: Types and Methods of Research  
Classification of Research  
Pure and Applied Research  
Exploring or Formulative Research  
Descriptive Research  
Diagnostic Research/Study  
Evaluation Research/Studies  
Action Research  
Experimental Research  
Historical Research  
Surveys  
Case Study  
Field Studies
- Unit 4: Review of Related Literature  
Purpose of the review. Identification of the related literature. Organizing the related literature.
- UNIT 5: Data Collection (Sampling) Sampling and Population Techniques of sampling  
Selection Characteristics of a good sample Types of data.
- UNIT 6: Tools of Data Collection  
Observation, Interview, Questionnaire, Rating scales, Attitude scales, Schedules, Characteristics of good research tools.
- UNIT 7: Statistics  
Concept of statistics, relevance in education, parametric and non-parametric data; graphical representation of data: histogram, frequency polygon, ogive and

pie chart; Measures of Central Tendency: concept, computation and interpretation; measures of variability: concept, computation and interpretation; normal probability curve: concept, application and interpretation.

Correlation: concept, computation and interpretation- Product Moment, Rank Order, Biserial, Point Biserial, Phi, Contingency, Tetrachoric; significance of mean: concept, computation and interpretation of significance of t-test (correlated and uncorrelated, matched, paired-unpaired, matching- paired); ANOVA (One way) : concept, computation and interpretation, regression and prediction; chi square: concept, computation and interpretation (equal and normal probability).

**UNIT 8: Research Report**

Format of the research report  
Style of writing the report  
References and bibliography

**Reference books:**

1. Best John W. and James Kahn, V., 1989, Research in Education, Sixth Edition, Prentice-Hall of India Pvt.Ltd, New Delhi.
2. Sharma R.A., 1992, Fundamentals of Educational Research, Loyal Book Depot, Meerut, UP, India.
3. Kulbir Singh Sidhu, 1990, Methodology of Research in Education, Sterling Publishers Pvt. Ltd., New Delhi.
4. Lokesh Koul, 1997 Methodology of educational Research, third edition, Vikas Publishing House Pvt. Ltd. , New Delhi.
5. Kothari C.R., 1990, Research Methodology Methods and Techniques, Wiley Eastern Limited, New Delhi.
6. Borg Walter R., Gall Meridith D., 1983, Educational Research an Introduction, Fourth Edition, Longman, New York & London.
7. Nitko Anthony J., 1983, Educational Tests and Measurement an Introduction, Harcourt Brace Jovanovich, Inc., New York.
8. Aggarwal Y.P., 1988, Statistical Methods Sterling Publishers Pvt. Ltd., New Delhi.
9. Garret Hnery E., 1985 Statistics in Psychology and Education, Viakils, Feffer and Simon, Bombay.
10. Guilford, J.P., and Benjamin Fruchter, 1982 Fundamentals of statistics in Psychology and Education, Fifth edition, Mc Graw-Hill Book Company, New York.
11. Gupta S.C. and Kapoor V.K., 1999, Fundamentals of Mathematical Statistics, Sultan Chand & Sons Educational Publishers, New Delhi.
12. Grewal P.S., Methods of Statistics Analysis, Sterling Publishers Pvt. Ltd., New Delhi.
13. Bruce W. Tuckman, Statistics in Psychology and Education.

## **PART-B**

### **HOME SCIENCE**

#### **Unit – I : Food Science**

- Food Groups
- Food Preparation
- Food Preservation
- Food Science and Food Analysis
- Food Processing

#### **Unit – II : Nutrition Science**

- Fundamentals of Nutrition
- Nutritional Biochemistry
- Food Microbiology
- Public Nutrition
- Therapeutic Nutrition

#### **Unit – III : Institutional Management**

- Management of Hospitality Institutes – Hospital / Hotel / Restaurant / Cafe and Outdoor catering.
- Management of Social Institutes – family as Institute, child care and Geriatric institutes, Panchayats.
- Management of Educational Institutes – Pre – school, Primary and Secondary Schools, (Colleges and Universities) Higher Educational Institutes.
- Management of Special Institutes for physically, mentally and socially challenged.
- Challenges and problems faced by Institutions.

#### **Unit – IV : Clothing**

- Principles of clothing – Socio – Psychological aspects of Clothing, selection of Fabrics, Clothing and Family Clothing.
- Clothing Construction – basic Principles of Drafting, Flat Pattern and Draping Methods.
- Textile Design – Principles and Concepts.
- Fashion Design – Fashion Cycles, Business and Merchandizing.
- Care and Maintenance of Textile Materials and Garments; Laundry Agents – Methods and Equipments.

#### **Unit – V : Textiles**

- General Properties and Fine Structure of all Textile Fibers.
- Processing and Manufacture of all natural and man – made fibers.
- Definition and Classification of Yarns; Identification of yarns and its use in various fabrics.
- Fabric construction, definition and types of woven, non – woven, knitted and other construction techniques.
- Testings of fibers, yarns and fabric; Importance of quality control and research institutes.

## **Unit – VI : Resource Management**

- Concept of Home management and steps.
- Management of Human Resources; Classification of Resources; Basic Characteristics of Resources.
- Decision making in family; Steps in decision making; Methods of resolving conflicts.
- Work simplification; Importance of work simplification in home; Muhdel's classes of change; Simple pen and pencil technique in work simplification.
- Housing, Interior Design, Principles of Interior Design, Various Colours and Colour Schemes.
- Household equipment – Selection and Care.

## **Unit – VII : Human Development**

- Child Development – Principles and Stages.
- Life Span Development – Theories of Human Development and Behaviour.
- Child rearing, Socialization practices and Dynamics.
- Early Childhood Care and Education – Emerging trends.
- Development problems and disabilities during childhood and adolescence, guidance and counselling.
- Advanced Child Study methods and assessment.
- Women's Studies, Family Welfare Program – Recent Approaches.

## **Unit – VIII : Non – Formal Education and Extension Education**

- History and Development of Home Science in Formal / Non-formal and Extension Education.
- Theory and Practices of Program / Curriculum planning and development.
- Management and Administration of Formal / Non – formal and Extension Education.
- Monitoring, Supervision and Evaluation of Formal, Non – formal and Extension Education.
- Vocationalization of Home Science in India.
- Theories and Principles of Guidance and Counseling in Formal / Non – formal / Extension.
- Problems and Challenges encountered in Formal / Non – formal / Extension.

## **Unit – IX : Developmental and Educational Communication**

- Concept and Classification of Communication
- Traditional Methods and Materials of Communication – Selection / Preparation / Use.
- Modern Methods and Materials of Communication – Selection / Preparation / Use.
- Strategies for Developmental Communication.
- Classroom Communications in Home Science trends.
- Communication for Publicity and Public Relations.
- Change and Challenges in Communication in Contemporary Society.