

**MASTER OF SCIENCE (AGRICULTURE-EXTENSION EDUCATION) – THIRD SEMESTER**

Third Semester			
S. No.	Name of Subject	Credits	Total Marks
1	Research Methods In Behavioral Sciences	5	100
2	Visual Communication	5	100
3	Sampling Techniques	5	100
4	Research Methodology	5	100
5	Research-III	4	100
<b>Total</b>		<b>24</b>	

**Subject Name:** RESEARCH METHODS IN BEHAVIORAL SCIENCES

**Theory**

Research – Meaning, importance, characteristics. Behavioural sciences research – Meaning, concept and problems in behavioural sciences research. Types and methods of Research – Fundamental, Applied and Action research, Exploratory, Descriptive, Diagnostic, Evaluation, Experimental, Analytical, Historical, Survey and Case Study. Review of literature – Need, Search Procedure, Sources of literature, Planning the review work. Research problem – Selection and Formulation of research problem and guiding principles in the choice of research problem, Factors and criteria in selection of research problem, statement of research problem and development of theoretical orientation of the research problem. Objectives – Meaning, types and criteria for judging the objectives. Concept and Construct – Meaning, role of concepts in research and Conceptual frame work development in research. Variable – Meaning, types and their role in research. Definition – Meaning, characteristics of workable definitions, types and their role in research. Hypothesis – Meaning, importance and functions of hypothesis in research, Types of hypothesis, linkages, sources, problems in formulation and criteria for judging a workable hypothesis. Measurement – Meaning, postulates and levels of measurement, Use of appropriate statistics at different levels of measurement, criteria for judging the measuring instrument and importance of measurement in research. Validity – Meaning and methods of testing. Reliability – Meaning and methods of testing. Sampling – Universe, Sample and Sampling-Meaning, basis for sampling, advantages and limitations, size and factors affecting the size of the sample and sampling errors – Methods of elimination and minimizing, Maximinon Principle, Sampling – Types of sampling and sampling procedures. Research Designs – Meaning, purpose and criteria for research design, Types, advantages and limitations of each design. Experimental design – Advantages and limitations. Data Collection devices - Interview – Meaning, purpose, types, techniques of interviewing and advantages and limitations. Enquiry forms and Schedules –

Meaning, types of questions used, steps in construction and advantages and limitations in its use. Questionnaires – Meaning, difference between schedule and questionnaire, types of questions to be used, pre – testing of the questionnaires or schedules and advantages and limitations. Check lists – Meaning, steps in construction, advantages and limitations in its use. Rating scales – Meaning, types, limits in construction, advantages and limitations in its use. Observation – Meaning, types, tips in observation, advantages and limitations in its use. Case studies – Meaning, types, and steps in conducting, advantages and limitations in its use. Social survey – Meaning, objectives, types and steps in conducting, advantages and limitations. Data processing – Meaning, coding, preparation of master code sheet, analysis and tabulation of data, choosing appropriate statistics for data analysis based on the level of measurement of variables. Report writing – Meaning, guidelines to be followed in scientific report writing, References in reporting.

### **Practical**

Selection and formulation of research problem - Formulation of objectives and hypothesis- Selection of variables based on objectives-Developing the conceptual framework of research. Operationally defining the selected variables-Development of data collection devices.-Testing the validity and reliability of the data collection instruments.- Pretesting of the data collection instrument-Techniques of interviewing and collection of data using the data collection instruments-Data processing, coding, tabulation and analysis. Formulation of secondary tables based on objectives of research. Writing report, writing of thesis and research articles-Presentation of reports

### **Suggested Readings:**

1. Chandrakandan K, Venkatapirabu J, Sekar V & Anand Kumar V. 2000. Tests and Measurements in Social Research. APH Publ.
2. Kerlinger FN. 1973. Foundations of Behavioural Research. Holt Rhinehart.
3. Kothari CR.1984. Research Methodology, Methods and Techniques. Chaitanya Publ. House.
4. Krishnaswami OR & Ranganatham M. 2005. Methodology of Research in Social Sciences. Himalaya Publ. House.
5. Mulay S & Sabaratnam VE.1983. Research Methods in Extension Education. Manasavan.
6. Ranjit Kumar. 1999. Research Methodology - A Step by Step Guide for Beginners. Sage Publ.
7. Ray GL & Sagar Mondal. 1999. Research methods in Social Sciences and Extension Education. Naya Prokash.
8. Wilkinson TS & Bhandarkar PC.1993. Methodology and Techniques of Social Research. Himalaya Publ. Home.

### **Subject Name: VISUAL COMMUNICATION**

#### **Theory**

Role of visuals & graphics in Communication. Characteristics of visuals & graphics. Functions of visuals and graphics. Theories of visual perception. Classification and selection of visuals. Designing message for visuals, Graphic formats and devices. Presentation of Scientific data. Principles and production of low cost visuals. Photographs- reprographic visuals. PC based visuals. Digitized video material in multimedia production. Designing visuals for print and TV and video. Pre-testing and evaluation of visuals. Scanning of visuals.

#### **Practical**

Preparation of low cost projected and Non-Projected visuals. Designing and layout of charts, posters, flash cards etc. Power point presentations. Generating computer aided presentation graphics. Scanning and evaluation of visuals.

**Suggested Readings:**

1. Bhatia A. 2005. Visual Communication. Rajat Publications, New Delhi.
2. Edgar Dale 1970. Audio Visual methods in Teaching. Holt, Rinehart & Winston.
3. James WB, Richard BL, Fried F Harclerod. 1952. A.V. Instructional Material & Methods. Mc.Graw Hill.
4. Reddy YN. 1998. Audio Visual Aids in Teaching, Training and Extension. Haritha Publ. House, Hyderabad.

**Subject Name: SAMPLING TECHNIQUES**

**Theory**

Concept of sampling, sample survey vs complete enumeration, planning of sample survey, sampling from a finite population, Simple random sampling, sampling for proportion, determination of sample size; inverse sampling, Stratified sampling, Cluster sampling, PPS sampling, Multi-stage sampling, double sampling, systematic sampling; Use of auxiliary information at estimation as well as selection stages, Ratio and regression estimators. Construction and analysis of survey designs, sampling and non-sampling errors; Preparation of questionnaire Non-sampling errors.

**Practical**

Random sampling ~ use of random number tables, concepts of unbiasedness, variance, etc.; simple random sampling, determination of sample size; Exercises on inverse sampling, stratified sampling, cluster sampling and systematic sampling; Estimation using ratio and regression estimators; Estimation using multistage design, double sampling and PPS sampling.

**Suggested Readings:**

1. Cochran WG. 1977. Sampling Techniques. John Wiley.
2. Murthy MN. 1977. Sampling Theory and Methods. 2nd Ed. Statistical Publ. Soc., Calcutta.
3. Singh D, Singh P & Kumar P. 1982. Handbook on Sampling Methods. IASRI Publ.
4. Sukhatme PV, Sukhatme BV, Sukhatme S & Asok C. 1984. Sampling Theory of Surveys with Applications. Iowa State University Press and Indian Society of Agricultural Statistics, New Delhi.

**Subject Name: RESEARCH METHODOLOGY**

**UNIT I**

Research – Meaning, importance, characteristics. Behavioural sciences research – Meaning, concept and problems in behavioural sciences research. Types and methods of Research – Fundamental, Applied and Action research, Exploratory, Descriptive, Diagnostic, Evaluation, Experimental, Analytical, Historical, Survey and Case Study. Review of literature – Need, Search Procedure, Sources of literature, planning the review work. Research problem – Selection and Formulation of research problem and guiding principles in the choice of research problem, Factors

and criteria in selection of research problem, statement of research problem and development of theoretical orientation of the research problem.

## **UNIT II**

Objectives – Meaning, types and criteria for judging the objectives. Concept and Construct – Meaning, role of concepts in research and Conceptual frame work development in research. Variable – Meaning, types and their role in research. Definition – Meaning, characteristics of workable definitions, types and their role in research. Hypothesis – Meaning, importance and functions of hypothesis in research, Types of hypothesis, linkages, sources, problems in formulation and criteria for judging a workable hypothesis. Measurement – Meaning, postulates and levels of measurement, Use of appropriate statistics at different levels of measurement, criteria for judging the measuring instrument and importance of measurement in research. Validity – Meaning and methods of testing. Reliability – Meaning and methods of testing. Sampling – Universe, Sample and Sampling-Meaning, basis for sampling, advantages and limitations, size and factors affecting the size of the sample and sampling errors – Methods of elimination and minimizing, Maximincon Principle, Sampling – Types of sampling and sampling procedures.

## **UNIT III**

Research Designs – Meaning, purpose and criteria for research design, Types, advantages and limitations of each design. Experimental design – Advantages and limitations. Data Collection devices - Interview – Meaning, purpose, types, techniques of interviewing and advantages and limitations. Enquiry forms and Schedules – Meaning, types of questions used, steps in construction and advantages and limitations in its use. Questionnaires – Meaning, difference between schedule and questionnaire, types of questions to be used, pre – testing of the questionnaires or schedules and advantages and limitations. Check lists – Meaning, steps in construction, advantages and limitations in its use. Rating scales – Meaning, types, limits in construction, advantages and limitations in its use. Observation – Meaning, types, tips in observation, advantages and limitations in its use. Case studies – Meaning, types, steps in conducting, advantages and limitations in its use. Social survey – Meaning, objectives, types and steps in conducting, advantages and limitations.

## **UNIT IV**

Data processing – Meaning, coding, preparation of master code sheet, analysis and tabulation of data, Statistical Package for Social Sciences ( SPSS) choosing appropriate statistics for data analysis based on the level of measurement of variables. Report writing – Meaning, guidelines to be followed in scientific report writing, References in reporting.

### **Practical**

Selection and formulation of research problem - Formulation of objectives and hypothesis- Selection of variables based on objectives-Developing the conceptual framework of research. Operationally defining the selected variables-Development of data collection devices.-Testing the validity and reliability of the data collection instruments.- Pre-testing of the data collection instrument-Techniques of interviewing and collection of data using the data collection instruments-Data processing, hands on experiences on SPSS, coding, tabulation and analysis. Formulation of secondary tables based on objectives of research.Writing report, Writing of thesis and research articles-Presentation of reports.

### **Suggested Readings**

1. Chandrakandan K, Venkatapirabu J, Sekar V & Anand Kumar V. 2000. Tests and Measurements in Social Research. APH Publ.

2. Kerlinger FN. 1973. Foundations of Behavioural Research. Holt Rhinehart. Kothari CR.1984. Research Methodology, Methods and Techniques.Chaitanya Publ. House.
3. Krishnaswami OR & Ranganatham M. 2005. Methodology of Research in Social Sciences. Himalaya Publ. House.
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5. Ranjit Kumar. 1999. Research Methodology - A Step by Step Guide forBeginners. Sage Publ.
6. Ray GL & Sagar Mondal. 1999. Research methods in Social Sciences and Extension Education. Naya Prokash.
7. Wilkinson TS & Bhandarkar PC.1993. Methodology and Techniques of Social Research. Himalaya Publ.Home.

**Subject Name:** RESEARCH-III