

MASTER OF SCIENCE (AGRICULTURE-EXTENSION EDUCATION) – FIRST SEMESTER

First Semester			
S. No.	Name of Subject	Credits	Total Marks
1	Development Perspective of Extension Education	5	100
2	Development Communication and Information Management	5	100
3	Diffusion and Adoption of Innovations	5	100
4	Statistical Methods	5	100
5	Research-I	4	100
Total		24	

Subject Name: DEVELOPMENT PERSPECTIVE OF EXTENSION EDUCATION

UNIT I

Extension Education – Meaning, objectives, concepts, principles and philosophy, critical analysis of definitions – Extension Education as a Profession – Adult Education and Distance Education.

UNIT II

Pioneering Extension efforts and their implications in Indian Agricultural Extension – Analysis of Extension systems of ICAR and SAU – State Departments Extension system and NGOs – Role of Extension in Agricultural University.

UNIT III

Poverty Alleviation Programmes – SGSY, SGRY, PMGSY, DPAP, DDP, CAPART – Employment Generation Programmes – NREGP, Women Development Programmes – ICDS, MSY, RMK, Problems in Rural Development.

UNIT IV

Current Approaches in Extension: Decentralised Decision Making, Bottom up Planning, Farming System Approach, Farming Situation Based Extension, Market – Led – Extension, Farm Field School, ATIC, Kisan Call Centres, NAIP.

Practical

Visit to Gram Panchayat to study on-going Rural Development Programmes, Visit to KVK, NGO and Extension centers of State Agricultural University and State Departments, Bottom up planning, Report preparation and presentations.

Suggested Readings

1. Chandrakandan KM, Senthil Kumar & Swatilaxmi. PS. 2005. *Extension Education What? And What Not ?* RBSA Publ.
2. Gallagher K. 1999. *Farmers Field School (FFS) – A Group Extension Process based on Non-Formal Education Methods*. Global EPM Facility, FAO.
3. Ganesan R, Iqbal IM & Anandaraja N. 2003. *Reaching the Unreached: Basics of Extension Education*. Associated Publishing Co.
4. Jalihal KA & Veerabhadraiah V. 2007. *Fundamentals of Extension Education and Management in Extension*. Concept Publ.
5. Khan PM. 2002. *Textbook of Extension Education*. Himalaya Publ.
6. Ray GL. 2006. *Extension Communication and Management*. Kalyani Publ.
7. Van Den Ban AW & Hawkins HS. 1998. *Agricultural Extension* .2nd Ed. CBS.
8. Viswanathan M. 1994. *Women in Agriculture and Rural Development*. Printwell Publ.

Subject Name: DEVELOPMENT COMMUNICATION AND INFORMATION MANAGEMENT

UNIT I

Communication process – concept, elements and their characteristics – Models and theories of communication – Communication skills– fidelity of communication, communication competence and empathy, communication effectiveness and credibility, feedback in communication, social networks and Development communication – Barriers in communication, Message – Meaning, dimensions of a message, characteristics of a good message, Message treatment and effectiveness, distortion of message.

UNIT II

Methods of communication – Meaning and functions, classification. Forms of communication – Oral and written communication, Non-verbal communication, interpersonal communication, organizational communication. Key communicators – Meaning, characteristics and their role in development.

UNIT III

Media in communication – Role of mass media in dissemination of farm technology, Effect of media mix for Rural People. Modern communication media – Electronic video, Tele Text, Tele conference, Computer Assisted Instruction, Computer technology and its implications.

UNIT IV

Agricultural Journalism as a means of mass communication, its form and role in rural development, Basics of writing – News stories, feature articles, magazine articles, farm bulletins and folders. Techniques of collection of materials for news stories and feature articles; Rewriting Art of clear writing, Readability and comprehension testing procedures; photo journalism, communicating with pictures, Radio and TV Journalism, Techniques of writing scripts for Radio and TV.

Suggested Readings

1. Dahama OP & Bhatnagar OP. 2005. *Education and Communication for Development*. Oxford & IBH.
2. Grover I, Kaushik S, Yadav L & Varma SK. 2002. *Communication and Instructional Technology*. Agrotech Publ. Academy.
3. Jana BL & Mitra KP. 2005. *Farm Journalism*. Agrotech Publ. Academy.
4. Ray GL. 2006. *Extension Communication and Management*. Kalyani Publ.
5. Rayudu CS. 2002. *Communication*. Himalaya Publ. House.
6. Reddy AA. 1987. *Extension Education*. Sree Lakshmi Press, Bapatla.
7. Sandhu AS. 2004. *Textbook on Agricultural Communication Process and Methods*. Oxford & IBH.

Subject Name: DIFFUSION AND ADOPTION OF INNOVATIONS

UNIT I

Diffusion – concept and meaning, elements; traditions of research on diffusion; the generation of innovations; innovation-development process; tracing the innovation-development process, converting research into practice.

UNIT II

The adoption process- concept and stages, dynamic nature of stages, covert and overt processes at stages, the innovation-decision process – a critical appraisal of the new formulation.

UNIT III

Adopter categories – Innovativeness and adopter categories, adopter categories as ideal types, characteristics of adopter categories; Perceived attributes of Innovation and their rate of adoption, factors influencing rate of adoption.

UNIT IV

Diffusion effect and concept of over adoption, opinion leadership- measurement and characteristics of opinion leaders, monomorphic and polymorphic opinion leadership, multi-step flow of innovation; concepts of homophily and heterophily and their influence on flow of innovations; Types of innovation-decisions – Optional, Collective and Authority and contingent innovation decisions; Consequences of Innovation-Decisions – Desirable or Undesirable, direct or indirect, anticipated or unanticipated consequences; Decision making – meaning, theories, process, steps, factors influencing decision – making.

Practical

Case studies in individual and community adoption process, content analysis of adoption studies, Identification of adopter categories on a selected technology, study of attributes of current farm technologies, Identification of opinion leaders, Sources of information at different stages of adoption on a selected technology, study of factors increasing or retarding the rate of adoption, presentation of reports on adoption and diffusion of innovations.

Suggested Readings

1. Dasgupta. 1989. *Diffusion Agricultural Innovations in Village India*. Wiley Eastern.
2. Jalihal KA & Veerabhadraiah V. 2007. *Fundamentals of Extension Education and Management in Extension*. Concept Publ. Co.
3. Ray GL. 2005. *Extension Communication and Management*. Kalyani Publ.
4. Reddy AA. 1987. *Extension Education*. Sree Lakshmi Press, Bapatla.
5. Rogers EM. 2003. *Diffusion of Innovations*. 5th Ed. The Free Press, New York.

Subject Name: STATISTICAL METHODS**Theory**

Classification, tabulation and graphical representation of data. Box-plot, Descriptive statistics. Exploratory data analysis; Theory of probability. Random variable and mathematical expectation, Discrete and continuous probability distributions: Binomial, Poisson, Negative Binomial, Normal distribution, Beta and Gamma distributions and their applications. Concept of sampling distribution: chi-square, t and F distributions. Tests of significance based on Normal, chi-square, t and F distributions. Large sample theory, Introduction to theory of estimation and confidence intervals. Correlation and regression. Simple and multiple linear regression model, estimation of parameters, predicted values and residuals, correlation, partial correlation coefficient, multiple correlation coefficient, rank correlation, test of significance of correlation coefficient and regression coefficients. Coefficient of determination, Non-parametric tests - sign, Wilcoxon, Mann-Whitney U-test, Wald Wolfowitz run test, Run test for the randomness of a sequence. Median test, Kruskal- Wallis test, Friedman two-way ANOVA by ranks. Kendall's coefficient of concordance.

Practical

Exploratory data analysis, Box-Cox plots; Fitting of distributions ~ Binomial, Poisson, Negative Binomial, Normal; Large sample tests, testing of hypothesis based on exact sampling distributions ~ chi square, t and F; Confidence interval estimation and point estimation of parameters of binomial, Poisson and Normal distribution; Correlation and regression analysis, Nonparametric tests.

Suggested Readings:

1. Anderson TW. 1958. An Introduction to Multivariate Statistical Analysis. John Wiley.
2. Dillon WR & Goldstein M. 1984. Multivariate Analysis - Methods and Applications. John Wiley.
3. Goon AM, Gupta MK & Dasgupta B. 1977. An Outline of Statistical Theory. Vol. I. The World Press.
4. Goon AM, Gupta MK & Dasgupta B. 1983. Fundamentals of Statistics. Vol. I. The World Press.
5. Hoel PG. 1971. Introduction to Mathematical Statistics. John Wiley.
6. Hogg RV & Craig TT. 1978. Introduction to Mathematical Statistics. Macmillan.
7. Morrison DF. 1976. Multivariate Statistical Methods. McGraw Hill.
8. Siegel S, Johan N & Casellan Jr. 1956. Non-parametric Tests for Behavior Sciences. John Wiley.
9. Learning Statistics: <http://freestatistics.altervista.org/en/learning.php>.
10. Electronic Statistics Text Book: <http://www.statsoft.com/textbook/stathome.html>.

Subject Name: RESEARCH-I