



Master's Programme in Agricultural Extension

Course Layout

Minimum Credit Requirements

Sr. No.	Subject	Minimum credit(s)
1.	Major	20
2.	Minor	09
3.	Supporting	05
4.	Seminar	01
5.	Research	20
	Total Credits	55
	Compulsory Non Credit Courses	06

Sr. No.	Course Number	Course Title	Credits
A) Major subjects (Min. 20 credits)			
1	EXT 501	Development Perspectives Of Extension Education	1+1=2
2	EXT 502	Development Communication And Information Management	2+1=3
3	EXT 503	Diffusion And Adoption Of Innovations	2+1=3
4	EXT 504	Research Methods In Behavioral Sciences	2+1=3
5	EXT 505	E-Extension	2+1=3
6	EXT 506	Entrepreneurship Development And Management In Extension	2+1=3
7	EXT 507	Human Resource Development	2+1=3
8	EXT 508	Visual Communication	2+1=3
9	EXT 509	Participatory Methods For Technology Development And Transfer	1+1=2
10	EXT 510	Gender Sensitization For Development	2+1=3
11	EXT 511	Perspectives Of Distance Education	2+0=2

12	EXT 512	Market-Led Extension	2+0=3
B) Minor Subjects (Min. 09 Credits)			
1	AH-501	Livestock Production And Management	2+1=3
2	AGRON -505	Agrometrology & Crop Weather Forecasting	2+1=3
3	AG.ECON 503	Evolution Of Economic Thoughts	1+0=1
4	AG.ECON 509	Agricultural Finance And Project Management	2+1=3
C) Supporting Subjects (Min. 05 Credits)			
1	STAT-511	Statistical Methods For Applied Sciences	2+1=3
2	STAT 531	Data Analysis Using Statistical Packages	0+2=2
D) Seminar (01 Credit)			
1	EXT 591	Master's Seminar	1+0=1
E) Master's Research (20 Credits)			
1	EXT 599	Master's Research	20
F) Non Credit Compulsory Courses			
1	PGS 501	Library And Information Services	0+1
2	PGS 502	Technical Writing And Communications Skills	0+1
3	PGS 503 (e-Course)	Intellectual Property And Its Management In Agriculture	1+0
4	PGS 504	Basic Concepts In Laboratory Techniques	0+1
5	PGS 505 (e-Course)	Agricultural Research, Research Ethics And Rural Development Programmes	1+0
6	PGS 506 (e-Course)	Disaster Management	1+0

Course Contents

A) Major Subjects:

EXT 501: DEVELOPMENT PERSPECTIVES OF EXTENSION EDUCATION (1+1)

Theory:

Lecture No.	Topic
1	Extension Education – Meaning, objectives, concepts, principles and philosophy, critical analysis of definitions
2	Extension Education as a Profession
3	Adult Education and Distance Education
4	Pioneering Extension efforts and their implications in Indian Agricultural Extension
5	Analysis of Extension systems of ICAR and SAU
6	State Departments Extension system and NGOs
7	Role of Extension in Agricultural University
8, 9	Poverty Alleviation Programmes – SGSY, SGRY, PMGSY, DPAP, DDP, CAPART
10	Employment Generation Programmes – NREGP
11	Women Development Programmes – ICDS, MSY, RMK
12	Problems in Rural Development
13, 14, 15, 16	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, ATMA

Practical:

- Visit to Gram Panchayat to study on-going Rural Development Programmes
- Visit to KVK, NGO and Extension centers of State Agricultural University (ATIC) and State Departments (Agri. Polyclinic)
- Agricultural production plan for a village.
- Report preparation and presentations.

Suggested Readings:

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

EXT 502: DEVELOPMENT COMMUNICATION AND INFORMATION MANAGEMENT (2+1)

Theory:

Lecture No.	Topic
1, 2	Communication process – concept, elements and their characteristics
3, 4	Models and theories of communication
5, 6, 7	Communication skills– fidelity of communication, communication competence and empathy, communication effectiveness and credibility, feedback in communication, social networks and Development communication
8	Barriers in communication
9, 10	Message – Meaning, dimensions of a message, characteristics of a good message, Message treatment and effectiveness, distortion of message
11	Methods of communication – Meaning and functions, classification
12, 13	Forms of communication – Oral and written communication, Non-verbal communication, interpersonal communication, organizational communication
14	Key communicators – Meaning, characteristics and their role in development
15	Media in communication – Role of mass media in dissemination of farm technology
16	Effect of media mix for Rural People
17, 18	Modern communication media – Electronic video, Tele Text, Tele conference, Computer Assisted Instruction, KIOSK, Computer technology and its implications
19, 20	Agricultural Journalism as a means of mass communication, Its form and role in rural development
21, 22, 23	Basics of writing – News stories, feature articles, magazine articles, farm bulletins and folders
24, 25	Techniques of collection of materials for news stories and feature articles
26	Rewriting Art of clear writing
27, 28	Readability and comprehension testing procedures
29	Photo journalism, communicating with pictures
30, 31, 32	Radio and TV Journalism, Techniques of writing scripts for Radio and TV.

Practical:

- Writing news stories
- Designing farm advertisement
- Techniques of writing Radio and TV script
- Content analysis of farm publications.
- Testing readability of farm publication.

Suggested Readings:

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

EXT 503: DIFFUSION AND ADOPTION OF INNOVATIONS (2+1)

Theory

Lecture No.	Topic
1, 2, 3, 4	Diffusion – concept and meaning, elements; traditions of research on diffusion
5, 6, 7	The generation of innovations; innovation-development process; tracing the innovation-development process, converting research into practice.
8, 9, 10	The adoption process- concept and stages, dynamic nature of stages, covert and overt processes at stages,
11, 12	The innovation-decision process – a critical appraisal of the new formulation.
13, 14, 15	Adopter categories – Innovativeness and adopter categories, adopter categories as ideal types, characteristics of adopter categories;
16, 17, 18	Perceived attributes of Innovation and their rate of adoption, factors influencing rate of adoption.
19	Diffusion effect and concept of over adoption,
20, 21, 22	Opinion leadership- measurement and characteristics of opinion leaders, mono morphic and polymorphic opinion leadership,
23	Multi-step flow of innovation;
24	Concepts of homophily and heterophily and their influence on flow of innovations;
25, 26	Types of innovation-decisions – Optional, Collective and Authority and contingent innovation decisions;
27, 28, 29	Consequences of Innovation-Decisions – Desirable or Undesirable, direct or indirect, anticipated or unanticipated consequences;
30, 31, 32	Decision making – meaning, theories, process, steps, factors influencing decision – making.

Practical:

- Case studies in adoption of an innovation
- Review of adoption studies
- Identification of opinion leaders
- Use of sources of information for farm technology
- Study of factors promoting or retarding the rate of adoption
- Presentation of reports on adoption and diffusion of innovations

Suggested Readings:

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

EXT 504: RESEARCH METHODS IN BEHAVIOURAL SCIENCE (2+1)

Theory:

Lecture No.	Topic
1	Research – Meaning, importance, characteristics.
2	Behavioural sciences research – Meaning, concept and problems in behavioural sciences research.
3, 4	Types and methods of Research – Fundamental, Applied and Action research, Exploratory, Descriptive, Diagnostic, Evaluation, Experimental, Analytical, Historical, Survey and Case Study.
5	Review of literature – Need, Search Procedure, Sources of literature, Planning the review work.
6, 7	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.
8	Objectives – Meaning, types and criteria for judging the objectives
9	Concept– Meaning, role of concepts in research and Conceptual frame work development in research.
10	Variable – Meaning, types and their role in research.
11	Definition – Meaning, characteristics of workable definitions, types and their role in research.
12	Hypothesis – Meaning, importance and functions of hypothesis in research, Types of hypothesis, linkages, sources, problems in formulation and criteria for judging a workable hypothesis.
13, 14, 15	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.
16	Validity – Meaning and methods of testing.
17	Reliability – Meaning and methods of testing.
18, 19, 20	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,
21	Sampling – Types of sampling and sampling procedures.
22, 23	Research Designs – Meaning, purpose and criteria for research design, Types, advantages and limitations of each design.
24	Experimental design – Advantages and limitations.
25, 26	Data Collection devices - Interview – Meaning, purpose, types, techniques of interviewing and advantages and limitations.
27	Enquiry forms and Schedules – Meaning, types of questions used, steps in construction and advantages and limitations in its use.
28, 29	Questionnaires – Meaning, difference between schedule and questionnaire, types of questions to be used, pre – testing of the questionnaires or schedules and advantages and limitations
30	Observation – Meaning, types, tips in observation, advantages and limitations in its use.
31	Case studies – Meaning, types, steps in conducting, advantages and limitations in its use.
32	Social survey – Meaning, objectives, types and steps in conducting, advantages and limitations.

Practical:

- Review of literature
- Selection and formulation of research problem
- Formulation of objectives
- Selection of variables based on objectives
- Formulation of hypotheses
- Developing the conceptual framework of research.
- Operationally defining the selected variables-
- Development of data collection devices.- Interview schedule, Questionnaire
- Pre-testing of the data collection instrument-
- Collection of data
- Data processing, hands on experiences on SPSS, coding, tabulation and analysis.
- Formulation of secondary tables based on objectives of research.
- Writing of thesis and research articles
- Presentation of reports.

Suggested Readings:

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

EXT 505: E- EXTENSION (2+1)**Theory:**

Lecture No.	Topic
1, 2, 3, 4	ICTs- Concept, definition, tools and application in extension education
5, 6	Reorganizing the extension efforts using ICTs, advantages, limitations and opportunities
7, 8	ICTs projects, case studies in India and developing world
9, 10	Different approaches (models) to ICTs
11, 12, 13	ICT use in field of extension- Expert systems on selected crops and enterprises
14, 15, 16	Self learning CDs on package of practices, diseases and pest management

17, 18, 19	Agricultural web sites and portals related crop production and marketing etc
20	Community Radio
21, 22	Web, Tele, and Video conferencing
23, 24, 25	Computer Aided Extension. knowledge management, Information kiosks, Multimedia. Online, Offline Extension
26	Tools-Mobile technologies, SMS alert system
27	e-learning concepts, e-Governance
28	ICT Extension approaches-pre-requisites, information and science needs of farming community. Need integration
29	Human resource information. Intermediaries
30	Basic e-extension training issues
31	ICT enabled extension pluralism
32	Emerging issues in ICT

Practical:

- Agril.content analysis of ICT Projects.
- Handling of ICT tools. Designing extension content.
- Online extension service.
- Project work on ICT enabled extension.
- Creation of extension blogs.
- Visit to ICT extension projects.
- Agril. Portal – Analysis of hits and response of farmers on selected website

Suggested Readings:

- Batnagar S & Schware R. 2000. Information and Communication Technology in Development- Cases from India. Sage Publ.
- Meera SN. 2008. ICTs in Agricultural Extension: Tactical to Practical. Ganga-Kaveri Publ. House. JangamWadiMath, Varanasi.
- Willem Zip. 1994. Improving the Transfer and Use of Agricultural Information – A Guide to Information Technology. The World Bank, Washington.

EXT 506 ENTREPRENEURSHIP DEVELOPMENT AND MANAGEMENT IN EXTENSION (2+1)

Theory:

Lecture No.	Topic
1	Entrepreneurship – Concept, characteristics, Approaches, Theories, Need for enterprises development
2	Agri – entrepreneurship – Concept, characteristics
3	Nature and importance for sustainable Livelihoods
4	Traits of entrepreneurs – Risk taking, Leadership, Decision making, Planning, Innovativeness, Organising, Coordinating and Marketing
5	Types of Entrepreneurs
6	Stages of establishing enterprise – Identification of sound enterprise, steps to be considered in setting up an enterprise, feasibility report, product selection, risk and market analysis, legal requirements

7	Project Management and Appraisal – Market, Technical, Financial, Social Appraisal of Projects
8	Micro enterprises – Profitable Agri enterprises in India – Agro Processing, KVIC industries
9	Micro financing – meaning, Sources of Finance, Banks, Small scale industries development organizations, SHG mainstreaming
10, 11	Marketing for enterprises – Concept, planning for marketing, target marketing, Competition, market survey and strategies, Product sales and promotion
12, 13	Gender issues in entrepreneurship development – Understanding gender and subordination of women, Gender as a development tool, Policy approaches for women entrepreneurship development
14, 15	Success and Failure stories for enterprises
16	Issues relating to success and failure of enterprises – Personal, Production, Finance, Social, Marketing
17, 18	Management – Meaning, concept, nature and importance Approaches to management, Levels of management, Qualities and skills of a manager
19	Extension Management – Meaning, Concept, Importance Principles of management Classification of Functions of Management
20	Planning – Concept, Nature, Importance, Types, Making planning effective. Change Management – factors, process and procedures
21	Decision-making – Concept, Types of decisions, Styles and techniques of decision making, Steps in DM Process, Guidelines for making effective decisions
22	Organizing – Meaning of Organization, Concept, Principles, Organizational Structure
23	Span of Management, Departmentalization, Authority and responsibility, Delegation and decentralization, line and staff relations
24	Coordination – Concept, Need, Types, Techniques of Coordination Interpersonal relations in the organization Staffing – Need and importance
25	Manpower planning, Recruitment, Selection, Placement and Orientation, Training and Development Performance appraisal – Meaning, Concept, Methods
26	Direction – Concept, Principles, Requirements of effective direction, Giving orders, Techniques of direction
27, 28	Leadership – Concept, Characteristics, Functions, Approaches to leadership, Leadership styles
29	Managing work motivation – Concept, Motivation and Performance, Approaches to motivation
30	Supervision – Meaning, Responsibilities, Qualities and functions of supervision, Essentials of effective supervision
31	Managerial Control – Nature, Process, Types, Techniques of Control
32	Budgeting, Observation, PERT and CPM, MIS

Practical:

- Field visit to Successful enterprises
- Study of Characteristics of Successful entrepreneurs
- Case Studies of Success / Failure enterprises
- Exercise on Market Survey
- Field visit to Financial institutions

- Simulated exercise to understand management process
- Development of Project Proposal
- Field visit to extension organizations to understand the functions of management

Suggested Readings:

- Gupta CB. 2001. Management Theory and Practice. Sultan Chand & Sons.
- Indu Grover. 2008. Handbook on Empowerment and Entrepreneurship. Agrotech Public Academy.
- Khanka SS. 1999. Entrepreneurial Development. S. Chand & Co.
- Singh D. 1995. Effective Managerial Leadership. Deep & Deep Publ.
- Tripathi PC & Reddy PN. 1991. Principles of Management. Tata McGraw Hill.
- Vasanta Desai. 1997. Small Scale Industries and Entrepreneurship. Himalaya Publ. House.

EXT 507: HUMAN RESOURCE DEVELOPMENT (HRD) (2+1)

Theory:

Lecture No.	Topic
1, 2	Human Resource Development – Definition, Meaning, Importance, Scope and Need for HRD
3, 4	Conceptual frame work, inter disciplinary approach, function systems and case studies in HRD;
5, 6	HRD Interventions – Different Experiences; Selection, Development & Growth-Selection
7, 8	Recruitment, Induction Staff Training and Development, Career planning
9	Social and Organizational Culture: Indian environment perspective on cultural process and social structure, society in transition
10	Organizational and Managerial values and ethics, organizational commitment
11	Motivation productivity - job description – analysis and evaluation;
12	Performance Appraisal.
13	Human Resource management: Collective bargaining, Negotiation skills
14, 15	Human Resource Accounting (HRA): What is HRA? Why HRA? Information Management for HRA and Measurement in HRA
16	Intra personal processes: Collective behaviour, learning, and perception ; Stress and coping mechanisms
17	Inter-Personal Process, Helping Process – communication and Feedback and interpersonal styles
18	Group processes : Inter and Intra
19	Organizational communication, Team building Process and functioning, Conflict management, Collaboration and Competition
20	HRD & Supervisors: Task Analysis
21	Capacity Building – Counseling and Mentoring
22, 23	Role of a Professional Manager: Task of Professional Manager – Responsibility of Professional Manager; Managerial skills and Soft skills required for Extension workers
24	Decision Making: Decision Making models
25, 26	Management by Objectives

27	Training – Meaning, determining training need and development strategies
28, 29	Training types, models, methods and evaluation
30	Facilities for training – Trainers training – techniques for trainees participation
31	Research studies in training extension personnel
32	Main issues in HRD: HRD culture and climate – organizing for HRD – emerging trends and prospects.

Practical:

- Visit to different training organizations to review ongoing activities & facilities;
- Analysis of Training methods followed by training institutions for farmers and extension workers
- Studies on evaluation of training programmes;
- Study of HRD in organization in terms of performance, organizational development, employees welfare and improving quality of work life and Human resource information, Presentation of reports.

Suggested Readings:

- Agochiya D. 2002. Every Trainer’s Handbook. Sage Publ.
- David Gross. 1997. Human Resource Management - The Basics. TR Publ.
- Davis Keth & Newston W John 1989. Human Behaviour at Work. 8th Ed. McGraw-Hill.
- Hersey Paul & Balanchard H Kenneth. 1992. Management of Organizational Behaviour Utilizing Human Resource. 5th Ed. Prentice-Hall of India.
- Knoontz Harold & Weihhrich Heinz 1990. Essentials of Management. 5th Ed. McGraw-Hill.
- Lynton RP & Pareek U. 1993. Training for Development. DB. Taraporewale Sons & Co.
- Punna Rao P & Sudarshan Reddy M. 2001. Human Resource Development Mechanisms for Extension Organization. Kalyani Publ.
- Rao TV. 2003. Readings in Human Resource Development. Oxford Publ. Co.
- Silberman Mel. 1995. Active Training. Press Johnston Publ. Co., New Delhi.
- Singh RP. 2000. Management of Training Programmes. Anmol Publ.
- Subba Rao P. 2005. Management & Organizational Behaviour. Himalaya Publ. House.
- Sundaram RM, Gupta V, George SS. 2006. Case Studies in Human Resource Management. ICFAI, Hyderabad.
- Tripathi & Reddy. 2004. Principles of Management. Tata McGraw-Hill.
- Wayne MR & Robert MN. 2005. Human Resource Management. International Ed. Pearson Prentice Hall.

EXT 508: VISUAL COMMUNICATION (2+1)

Theory:

Lecture No.	Topic
1, 2	Role of visuals & graphics in Communication.
3, 4	Characteristics of visuals & graphics.
5, 6	Functions of visuals and graphics.
7, 8, 9	Theories of visual perception
10, 11	Classification and selection of visuals.
12, 13, 14	Designing message for visuals,
15, 16	Graphic formats and devices.
17, 18	Presentation of Scientific data.
19, 20, 21, 22	Principles and production of low cost visuals.

23, 24	Photographs- reprographic visuals. PC based visuals
25, 26	Digitized video material in multimedia production
27, 28, 29	Designing visuals for print and TV and video
30, 31, 32	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:

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

EXT 509: PARTICIPATORY METHODS FOR TECHNOLOGY DEVELOPMENT AND TRANSFER (1+1)

Theory:

Lecture No.	Topic
1, 2	Participatory extension – Importance, key features, principles and process of participatory approaches;
3, 4	Different participatory approaches (RRA, PRA, PLA, AEA, PALM, PAR, PAME, ESRE, FPR) and successful models
5, 6	Participatory tools and techniques.
7	Space Related Methods : village map (social & resource), mobility services and opportunities map and transect
8	Time related methods : time line, trend analysis, seasonal diagram
9	Daily activity schedule, dream map
10, 11	Relation oriented methods : cause and effect diagram (problem tree), impact – diagram, well being ranking method, Venn diagram, matrix ranking, livelihood analysis
12	Preparation of action plans, concept and action plan preparation
13	Participatory technology development and dissemination
14, 15	Participatory planning and management, phases and steps in planning and implementation aspects;
16	Process monitoring, participatory evaluation.

Practical:

- Simulated exercises on space related methods, time related method and relation oriented methods;
- Documentation of PTD and dissemination;

- Preparation of action plan;
- Participatory monitoring and evaluation of developmental programmes.

Suggested Readings:

- Adhikary. 2006. *Participatory Planning and Project Management in Extension Science*. Agrotech Publ. Academy.
- Mukharjee N. 2002. *Participatory Learning and Action*. Concept Publ. Co.
- Singh BK. 2008. *PRA/PLA and Participatory Training*. Adhyayan Publ. & Distr.
- Somesh Kumar. 2002. *Methods for Community Participation*. Vistaar Publ.

EXT 510: GENDER SENSITIZATION FOR DEVELOPMENT (1+1)

Theory:

Lecture No.	Topic
1	Gender concepts, issues and challenges in development
2	Gender roles, gender balance, status, need and scope
3	Gender analysis tools and techniques
4	National policy for empowerment of women since independence;
5, 6	Developmental programmes for women
7	Gender mainstreaming in agriculture and allied sectors – need and relevance
8	Gender budgeting – A tool for empowering women.
9	Women empowerment –Dimensions
10, 11	Women empowerment through SHG approach
12	Women entrepreneurship and its role in economic development
13	Public Private Partnership for the economic empowerment of women
14	Building rural institution for women empowerment
15	Women human rights
16	Action plans for gender mainstreaming

Practical:

- Visits to rural institutions engaged in women empowerment
- Visits to entrepreneurial unit of women and making SWOT analysis of the Unit
- Visit to Center for women development to study the different activities related to projects and research on gender
- Visit to gender cell, Office of the Commissioner and Director of Agriculture of the state to study the mainstreaming of gender concerns and gender budget of the department

Suggested Readings:

- Grover I & Grover D. 2002. *Empowerment of Women*. Agrotech Publ. Academy.
- Porter F, Smyth I & Sweetman C.1999. *Gender Works: Oxfarm Experience in Policy and Practice*. Oxfarm Publ.

- Raj MK. 1998. *Gender Population and Development*. Oxford Univ. Press.
- Sahoo RK & Tripathy SN. 2006. *SHG and Women Empowerment*. Anmol Publ.
- Sinha K. 2000. *Empowerment of Women in South Asia*. Association of Management Development Institution in South Asia, Hyderabad.
- Thakur Joshi S. 1999. *Women and Development*. Mittal Publ.
- Vishwanathan M. 1994. *Women in Agriculture & RD*. Rupa Books.

EXT 511: PERSPECTIVES OF DISTANCE EDUCATION (1+1)

Theory:

Lecture No.	Topic
1	Distance Education – Introduction Meaning, Concept, Philosophy and its work ethics, characteristics of Distance Education
2	Evolution and Historical view of Distance Education Theory Methodology, and Epistemology
3	Dimensions of Distance Education, Scope and difficulties
4	Open Education – Non-formal Education, Continuing Education, Education by correspondence, Distance education institute
5, 6	Forms and systems of Distance and Open Education, Modes of Teaching and Learning in Distance Education, Methods of Distance Education, Significance of Distance Education in Teacher Education.
7	Planning Distance Education A Systems Approach Student Learning
8	Course Planning, The target groups Barriers to learning in Distance Education Planning and Management of Networked Learning
9	Educational Technology in Distance Education
10	Application of information and Educational Technologies in Distance Education
11	Development of Course and Course material
12	Management of resources, processes
13	Forms of Instructional material in Distance Education and Media Development and Production in Distance Education
14	Video Classroom Strategy in Distance Education
15	Strategies for maximizing the reach – services to students
16	Programme Evaluation - performance indicators and Quality Assessment

Practical:

- Visit to the University which is implementing the Distance Education Programmes.
- Detailed Study of their programme in relation to Educational Technology, Methodology, Curriculum Development, Evaluation and Assessment.
- Exercise on development of curriculum for Distance Education exclusively for farming community.

Suggested Readings:

- Holmberg B. 1995. Theory and Practice of Distance Education. Routledge Publ..
- Lakshmi Reddy MV. 2001. Towards Better Practices in Distance Education. Kanishka Publ.
- More MG. 2003. Hand Book of Distance Education. Lawrence Erlbaum Associates Publ.
- Panda.S. 2003. Planning & Management in Distance Education. Kogan Page Publ.
- Pathak CK. 2003. Distance Education: Prospects and Constraints. Rajat Publ.
- Sharma DC. 2005. Management of Distance Education. Anmol Publ.
- Sharma M. 2006. Distance Education: Concepts and Principles. Kanishka Publ.

EXT 512: MARKET LED EXTENSION MANAGEMENT (1+1)**Theory:**

Lecture No.	Topic
1	Agricultural extension at cross roads; Changing scenario of agricultural extension at the national level
2	Market led extension – emerging perspectives; Market led extension – issues and challenges; Dimensions of market led extension
3	Agricultural marketing an overview;
4	Development of a marketing plan, pricing concepts and pricing strategy
5	Consumer behaviour
6	Marketing communication and promotional strategies The marketing research process
7	Agricultural trade liberalization and its impact
8	International marketing opportunities
9	Implications of AOA, TRIPS and IPRs agreements on agriculture
10	Agreement on SPS and TBT - an over view
11	Commodity features marketing
12	Public private linkages in market led extension
13	Role of SHG in market led extension
14	Contract farming – a viable approach to meet market challenges
15	IT enabled approaches for market led extension and communication
16	Weather service and crop modeling – An effective tool in market led extension

Practical:

- Identification and analysis of different marketing sources for agricultural commodities.
- Development of strategy for an effective market intelligence system;
- Development of suitable marketing plan to suite rural situation;
- Visit to APEDA, Rythu Bazaars to study the processes and procedures related to market-led extension.

Suggested Readings:

- Kaleel FMH & Krisnamurthy J. 2007. *Market Led Extension Dimensions and Tools*. Agro Tech Publ. Academy.
- Rajmanohar TP & Kumaravel KS. 2006. *Contract Farming in India*. ICFAI Univ. Press, Hyderabad.
- Subbalakshmi V. 2005. *Globalization - Indian Experience*. ICFAI Univ. Press, Hyderabad.
- Suresh K. 2005. *Rural Markets - Emerging Opportunities*. ICFAI Univ. Press, Hyderabad

Compulsory Non Credit Courses**PGS 501: LIBRARY AND INFORMATION SERVICES (0+1)****Practical:**

- Introduction to library and its services; Types of library.
- Role of libraries in education, research and technology transfer;
- Classification systems and organization of library;
- Sources of information- Primary Sources, Secondary Sources and Tertiary Sources;
- Intricacies of abstracting and indexing services (Science Citation Index, Biological Abstracts, Chemical Abstracts, CABs reference sources;
- Literature survey;
- Citation techniques/Preparation of bibliography;
- Use of CD-ROM Databases,
- Online Public Access Catalogue and other computerized library services;
- Use of Internet including search engines and its resources;
- e-resources access methods.

PGS 502: TECHNICAL WRITING AND COMMUNICATIONS SKILLS (0+1)**Practical:****Technical Writing:**

- Various forms of scientific writings- theses, technical papers, reviews, manuals, etc;
- Various parts of thesis and research communications (title page, authorship contents page, preface, introduction, review of literature, material and methods, experimental results and discussion);
- Writing of abstracts, summaries, précis, citations etc.;
- Commonly used abbreviations in the theses and research communications;
- Illustrations, photographs and drawings with suitable captions;
- Pagination, numbering of tables and illustrations;
- Writing of numbers and dates in scientific write-ups;
- Editing and proof-reading;
- Writing of a review article.

Communication Skills:

- Grammar (Tenses, parts of speech, clauses, punctuation marks);
- Error analysis (Common errors);

- Concord; Collocation; Phonetic symbols and transcription; Accentual pattern:
- Weak forms in connected speech:
- Participation in group discussion: Facing an interview;
- Presentation of scientific papers.

Suggested Readings:

- *Chicago Manual of Style*. 14th Ed. 1996. Prentice Hall of India.
- *Collins' Cobuild English Dictionary*. 1995. Harper Collins.
- Gordon HM & Walter JA. 1970. *Technical Writing*. 3rd Ed. Holt, Rinehart & Winston.
- Hornby AS. 2000. *Comp. Oxford Advanced Learner's Dictionary of Current English*. 6th Ed. Oxford University Press.
- James HS. 1994. *Handbook for Technical Writing*. NTC Business Books.
- Joseph G. 2000. *MLA Handbook for Writers of Research Papers*. 5th Ed. Affiliated East-West Press.
- Mohan K. 2005. *Speaking English Effectively*. MacMillan India.
- Richard WS. 1969. *Technical Writing*. Barnes & Noble.
- Robert C. (Ed.). 2005. *Spoken English: Flourish Your Language*. Abhishek.
- Sethi J & Dhamija PV. 2004. *Course in Phonetics and Spoken English*. 2nd Ed. Prentice Hall of India.
- Wren PC & Martin H. 2006. *High School English Grammar and Composition*. S. Chand & Co.

PGS 503 INTELLECTUAL PROPERTY AND ITS MANAGEMENT IN AGRICULTURE (1+0) (e-Course)

Theory

- Historical perspectives and need for the introduction of Intellectual Property Right regime;
- TRIPs and various provisions in TRIPS Agreement;
- Intellectual Property and Intellectual Property Rights (IPR), benefits of securing IPRs;
- Indian Legislations for the protection of various types of Intellectual Properties;
- Fundamentals of patents, copyrights, geographical indications, designs and layout, trade secrets and traditional knowledge, trademarks, protection of plant varieties and farmers' rights and bio-diversity protection;
- Protectable subject matters, protection in biotechnology, protection of other biological materials, ownership and period of protection;
- National Biodiversity protection initiatives;
- Convention on Biological Diversity;
- International Treaty on Plant Genetic Resources for Food and Agriculture;
- Licensing of technologies, Material transfer agreements, Research collaboration Agreement, License Agreement.

Suggested Readings:

- Erbisch FH & Maredia K.1998. *Intellectual Property Rights in Agricultural Biotechnology*. CABI.
- Ganguli P. 2001. *Intellectual Property Rights: Unleashing Knowledge Economy*. McGraw-Hill.
- *Intellectual Property Rights: Key to New Wealth Generation*. 2001. NRDC & Aesthetic Technologies. Ministry of Agriculture, Government of India. 2004. *State of Indian Farmer*. Vol.
- V. *Technology Generation and IPR Issues*. Academic Foundation.
- Rothschild M & Scott N. (Ed.). 2003. *Intellectual Property Rights in Animal Breeding and Genetics*. CABI.
- Saha R. (Ed.). 2006. *Intellectual Property Rights in NAM and Other Developing Countries: A Compendium on Law and Policies*. Daya Publ. House.
- *The Indian Acts - Patents Act, 1970 and amendments; Design Act, 2000; Trademarks Act, 1999; The Copyright Act, 1957 and amendments; Layout Design Act, 2000; PPV and FR Act 2001, and Rules 2003; National Biological Diversity Act, 2003*.

PGS 504: BASIC CONCEPTS IN LABORATORY TECHNIQUES (0+1)

Practical:

- Safety measures while in Lab;
- Handling of chemical substances;
- Use of burettes, pipettes, measuring cylinders, flasks, separatory funnel, condensers, micropipettes and vaccupets;
- washing, drying and sterilization of glassware;
- Drying of solvents/chemicals.
- Weighing and preparation of solutions of different strengths and their dilution;
- Handling techniques of solutions;
- Preparation of different agro-chemical doses in field and pot applications;
- Preparation of solutions of acids;
- Neutralisation of acid and bases;
- Preparation of buffers of different strengths and pH values.
- Use and handling of microscope, laminar flow, vacuum pumps, viscometer, thermometer, magnetic stirrer, micro-ovens, incubators, sandbath, waterbath, oilbath;
- Electric wiring and earthing.
- Preparation of media and methods of sterilization;
- Seed viability testing, testing of pollen viability;
- Tissue culture of crop plants;
- Description of flowering plants in botanical terms in relation to taxonomy

Suggested Readings:

- Furr AK. 2000. *CRC Hand Book of Laboratory Safety*. CRC Press.
- Gabb MH & Latchem WE. 1968. *A Handbook of Laboratory Solutions*. Chemical Publ. Co.

PGS 505: AGRICULTURAL RESEARCH, RESEARCH ETHICS AND RURAL DEVELOPMENT PROGRAMMES (1+0) e-Course)

Theory:

UNIT I

- History of agriculture in brief;
- Global agricultural research system: need, scope, opportunities; Role in promoting food security, reducing poverty and protecting the environment;
- National Agricultural Research Systems (NARS) and Regional Agricultural Research Institutions;
- Consultative Group on International Agricultural Research (CGIAR): International Agricultural Research Centres (IARC), partnership with NARS, role as a partner in the global agricultural research system, strengthening capacities at national and regional levels;
- International fellowships for scientific mobility.

UNIT II

- Research ethics: research integrity, research safety in laboratories,
- Welfare of animals used in research,
- Computer ethics,
- Standards and problems in research ethics.

UNIT III

- Concept and connotations of rural development,
- rural development policies and strategies.
- Rural development programmes: Community Development Programme, Intensive Agricultural District Programme, Special group – Area Specific Programme, Integrated Rural Development Programme (IRDP) Panchayati Raj Institutions, Co-operatives, Voluntary Agencies/Non-Governmental Organisations.
- Critical evaluation of rural development policies and programmes.
- Constraints in implementation of rural policies and programmes.

Suggested Readings:

- Bhalla GS & Singh G. 2001. *Indian Agriculture - Four Decades of Development*. Sage Publ.
- Punia MS. *Manual on International Research and Research Ethics*. CCS, Haryana Agricultural University, Hisar.
- Rao BSV. 2007. *Rural Development Strategies and Role of Institutions - Issues, Innovations and Initiatives*. Mittal Publ.
- Singh K. 1998. *Rural Development - Principles, Policies and Management*. Sage Publ.

PGS 506: DISASTER MANAGEMENT (1+0) (e-Course)

Theory:

UNIT I

- Natural Disasters- Meaning and nature of natural disasters, their types and effects. Floods, Drought, Cyclone, Earthquakes, Landslides, Avalanches, Volcanic eruptions, Heat and cold Waves,
- Climatic Change: Global warming, Sea Level rise, Ozone Depletion

UNIT II

- Man Made Disasters- Nuclear disasters, chemical disasters, biological disasters, building fire, coal fire, forest fire. Oil fire, air pollution, water pollution, deforestation, Industrial wastewater pollution, road accidents, rail accidents, air accidents, sea accidents.

UNIT III

- Disaster Management- Efforts to mitigate natural disasters at national and global levels.
- International Strategy for Disaster reduction.
- Concept of disaster management, national disaster management framework; financial arrangements; role of NGOs, Community-based organizations, and media. Central, State, District and local Administration; Armed forces in Disaster response; Disaster response: Police and other organizations.

Suggested Readings:

- Gupta HK. 2003. *Disaster Management*. Indian National Science Academy. Orient Blackswan.
- Hodgkinson PE & Stewart M. 1991. *Coping with Catastrophe: A Handbook of Disaster Management*. Routledge.
- Sharma VK. 2001. *Disaster Management*. National Centre for Disaster Management, India.