

## Department of Agricultural Extension

### M.Sc. Programme

<i>Course No.</i>	<i>Title of the course</i>	<i>Credits</i>
<b>1<sup>st</sup> Semester</b>		
EXT - 501	Development Perspectives of Extension Education	2+1
EXT - 502	Communication, Development Communication and Information Management	2+0
EXT - 503	Research Methods in Behavioural Sciences	2+1
EXT - 504	Principles of Management and Organizational Behaviour	2+0
**EXT-505	Library and Information Services	0+1
**EXT-506	Technical writing and Communication Skills	
<b>2<sup>nd</sup> Semester</b>		
EXT - 551	E-Extension, ICT and knowledge Management	2+1
EXT - 552	Entrepreneurship Development and Management in Extension	2+1
EXT - 553	Human Resource Development	2+1
EXT - 554	Gender Sensitization for Development	1+1
*EXT - 555	Media Management	2+1
*EXT - 556	Communication For Management and Business	2+1
*EXT-557	Agric-Supply Chain Management	1+0
*EXT-558	Community Mobilization and Organization Development	1+0
**EXT-559 (e-Course)	Intellectual Property and its Management in Agriculture	1+0
**EXT-560	Basic Concepts in Laboratory Techniques	0+1
<b>3<sup>rd</sup> Semester</b>		
EXT - 601	Diffusion and Adoption of Innovations	2+1
EXT - 602	Participatory Methods for Technology Development and Transfer	1+1
EXT - 603	Project Management in Extension	2+1
EXT - 604	Market Led Extension	1+0
**EXT 605(e-Course)	Agricultural Research, Research Ethics and Rural Development Programmes	1+0
EXT-606 (e-Course)	Disaster Management	1+0
EXT - 649	Seminar - I	0+1
<b>4<sup>th</sup> Semester</b>		
EXT - 651	Perspective of Distance Education	1+0
EXT- 652	PLA Based Field Camp	0+2
EXT - 649	Seminar - II	0+1

- For students of both Master's & Ph.D of outside Departments

\*\* Compulsory non-credit courses

**Ph.D Programme**

<i>Course No.</i>	<i>Title of the course</i>	<i>Credits</i>
<b>1<sup>st</sup> Semester</b>		
EXT-701	Advances in Agricultural Extension	2+1
EXT-702	Advanced Design and Techniques in Social Science Research	2+1
EXT-703	Advances in Training Technology	2+1
EXT-704	Organizational Development	2+1
EXT-705	Advanced Instructional Technologies	2+1
<b>2<sup>nd</sup> Semester</b>		
EXT-751	Theory Construction in Social Sciences	2+0
EXT-752	Advanced Management Techniques	2+1
EXT-753	Media Management	2+1
EXT-754	Transfer of Technology in Agriculture	2+1
EXT-799	Seminar-I	1+0
<b>3<sup>rd</sup> Semester</b>		
EXT-849	Seminar-II	0+1
<b>4<sup>th</sup> Semester</b>		
	Nil	
<b>5<sup>th</sup> Semester</b>		
	Nil	
<b>6<sup>th</sup> Semester</b>		
EXT-999	Seminar-III	1+0
EXT-1000	Doctoral Research	0+45

**Detailed of Courses**

## **M.Sc. Programme**

### **EXT 501 Development Perspectives of Extension Education 2+1**

**UNIT I:** Development meaning, concept and theories – development and extension education- 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 effects 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 – Employments Generation Programmes – NREGP, Women Development Programmes – ICDS, MSY, RMK, Problems in Rural Development.

**UNIT – IV:** Current approaches in extension: decentralized decision making, bottom up planning, farming system approach, farming situation based extension, market – led – extension, farm field school, ATIC, Kissan Call Centers, and 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.

### **EXT 502 Communications, Development Communication and Information**

#### **Management**

**2+0**

**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:** Development communication – genesis and evolution, approaches and methods – participatory communication.

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.

**EXT 503            Research Methods in Behavioural Sciences            2+1**

**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. 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.

**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.

## **EXT 504 Principles of Management and Organizational Behaviour 2=0**

**UNIT I:** Nature, scope and significance of management, evolution of management thoughts, Approaches to management, functions of a manager, planning – types, steps, course objective, process, strategies, policies, MBO, strategic planning process, SWOT analysis, organizing – structure & process, line staff, authority & responsibility.

**UNIT II:** Staffing – selection process, directing – training, communication & motivation, controlling – significance, process, techniques, standards & benchmarks, management audit.

**UNIT III:** Nature , scope and significance of organizational behaviour, evolution and historical background of organizational behaviour , models of organizational behaviour, foundations of individual behavior, diversity, micro organizational behaviour – personality, self-concept, self-esteem and self-efficacy, attitudes, perception, power – types & structures.

**UNIT IV:** Motivation – Types of motivation. Theories of motivation, applications of motivation. Transactional analysis – Johari window-self fulfilling prophecy, Interpersonal relations-understanding, determinants, and developing, leadership styles and influence process, leadership theories, types of leaders, and effective leader, group dynamics, types of groups, group formation, group decision making, team building.

**UNIT V:** Organizational culture or climate-concept, dimensions, ethos, determinants, organizational conflicts – concepts, sources, implications and management, organizational conflicts-concepts, sources, implications, and management, organizational changes-types, resistances to change, role of changing agents.

## **EXT 505 Library and Information Services 0+1**

Introduction to library and its services, 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, CABI Abstracts, etc.), Tracing information from 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.

## **EXT 506 Technical Writing and Communications Skills 0+1**

**Technical Writing** – Various forms of scientific writings-thesis, 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 thesis and research communications, illustrations, photographs and drawing with suitable captions, pagination, numbering of tables and illustrations, writing of numbers and dates in scientific write-ups, Editing and proof-reading, writing review articles.

**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.

### **EXT 551 E-Extension, ICT and Knowledge Management 2+1**

**UNIT I:** ICTs – concept, definition, tools and application in extension education. Reorganizing the extension efforts using ICTs, advantages, limitations and opportunities.

**UNIT II:** ICTs projects, case studies in India and developing world. Different approaches (models) to ICTs. ICT use in field of extension – Expert systems on selected crops and enterprises, Self learning CDs on package of practices, diseases and pest management, Agricultural web sites and portals related crop production and marketing etc.

**UNIT III:** Community Radio, Web, Tele, and Video conferencing. Computer Aided Extension Knowledge management, Information kiosks, multimedia, online, offline extension. Tools-mobile technologies, e-learning concepts.

**UNIT IV:** ICT Extension approaches-pre-requisites, information and science needs of farming community, Need integration. Human resource information. Intermediaries. Basic e-extension training issues. ICT enabled extension pluralism. Emerging issues in ICT.

**Practical:** Agricultural 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.

### **EXT 552 Entrepreneurship Developments and Management in Extension 2+1**

**UNIT I:** Entrepreneurship - concept, characteristics, approaches, theories, need for enterprises development. Agric – Entrepreneurship – concept, characteristics, nature and importance for sustainable livelihoods. Traits of entrepreneurships – risk taking, leadership, decision making, planning, organizing, coordinating and marketing, types of entrepreneurships. 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. Project Management and Appraisal – Market, Technical, Financial, Social Appraisal of Projects.

**UNIT II:** Micro enterprises - profitable agric enterprises in India – agro processing, KVIC industries. Micro financing – meaning, sources of finance, banks, small scale industries development organizations. Marketing for enterprises – concept, planning for marketing, target marketing, competition, market survey and strategies, Product sales and promotion. Gender issues in entrepreneurship development –

understanding gender and subordinating of women, gender as a development tool, policy approaches for women entrepreneurship development. Success and failure stories for enterprises – issues relating to success and failure of enterprises – personal, production, finance, social, marketing

**UNIT III:** Management - meaning, concept, nature and importance, approaches to management, levels of management, qualities and skills of a manager. Extension management – meaning, concept, importance, principles of management, classification of functions of management. Planning – concept, nature, importance, types, making planning effective. Change management – factors, process and procedures. Decision making – concept, types of decisions, styles and techniques of decision making, Steps in DM process, guidelines for making effective decisions. Organizing – meaning of organization, concept, principles, organizational structure, span of management, departmentalization, authority and responsibility, delegation and decentralization, line and staff relation.

**UNIT IV:** Coordination – concept, need, types, techniques of coordination. Interpersonal relations in the organization. Staffing – need and importance, manpower planning, recruitment, selection, placement and orientation, training and development – performance appraisal – meaning, concept, methods. Direction – Concept, principles, requirements of effective direction, giving orders, techniques of direction. Leadership – concept, characteristics, functions, approaches to leadership, leadership styles. Organizational communication – concept, process, types, net works, barriers to communication. Managing work motivation – concept, motivation and performance, approaches to motivation. Supervision – meaning, responsibilities, qualities and functions of supervision, essentials of effective supervision. Managerial control – nature, process, types, techniques of control, budgeting, observation, PERT and CPM, MIS.

**Practical:** Field visit to successful enterprises-Study of characteristics of successful entrepreneurs Development of project proposal – case studies of success / failure enterprises – exercise on market survey-field visit to financial institutions – simulated exercise to understand management process-field visit to extension organizations to understand the functions of management – group exercise on development of short term and long term plan- simulated exercise on techniques of decision making- Designing organizational structure – group activity on leadership development skills.

## **EXT 553 Human Resource Developments**

**2+1**

**UNIT I:** Human Resource Development – definition, meaning, importance, scope and need for HRD; conceptual frame work, inter disciplinary approaches, function systems and case studies in HRD; HRD interventions – different experiences; selection, development & growth – selection, recruitment, induction staff training and development, career planning, social and organizational culture.

**UNIT II:** Human Resource management: Collective bargaining, Negotiation skills, Human Resource Accounting (HRA): What is HRA? Why HRA? Information Management for HRA and Measurement in HRA, Intra personal processes: Collective behavior, learning, and perception, Stress and coping mechanisms, Inter-personal process, group & inter group process: group information and group processes, organizational communication, team building process and functioning, conflict management, collaboration and competition, HRD & supervisors: task analysis, capacity building – counseling and mentoring, role of a professional manager: task of professional manager – responsibility of professional manager, managerial skills and soft skills required for extension workers, decision making models, management by objectives: Behavioural dynamics: Leadership styles – group dynamics.

**UNIT III:** Training – meaning, determining training need and development strategies – training types, models, methods and evaluation, Facilities for training – trainers training – techniques for trainees participation, research studies in training extension personnel, main issues in HRD: HRD culture and climate – organizing for HRD – emerging trends and Prospective.

**Practical :** Design a training module based on : training topic, duration (date), venue, stakeholders, resource persons. Develop a schedule to estimate training need. Develop a questionnaire to generate data on training impact. Field interaction on TNA, task analysis, identification of managerial skills, decision making process

## **EXT 554      Gender Sensitization for Development                      1+1**

In this course the students will learn about an overview of the concept of gender and gender balance on development and develop skills of identifying gender roles, rights, responsibilities and relationships on development. Besides the students will also learn the attitudinal change to internalize gender equity concerns as fundamental human rights and also enhance the capability for identifying and analyzing gender issues in agriculture and allied sectors.

**UNIT I:** Gender concepts, issues and challenges in development, Gender roles, gender balance, status, need and scope, Gender analysis tools and techniques.

**UNIT II:** National policy for empowerment of women since independence, Developmental programmes for women, gender mainstreaming in agriculture and allied sectors need and relevance, gender budgeting – a tool for empowering women.

**UNIT III:** Women empowerment – Dimensions, Women empowerment through SHG approach, Women entrepreneurship and its role in economic development, Public Private Partnership for the economic empowerment of women, Building rural institution for women empowerment, Women human rights, Action plans for gender mainstreaming.

**Practical:** Visits to rural institutions of women for studying in the rural institutions engaged in women empowerment, Visits to entrepreneurial unit of women for studying the ways and means of establishing entrepreneurship units for Women and their development and also SWOT analysis of the Unit, Visit to Center for development – NIRD to study the different activities related to projects and research on gender, Visit to gender cell, Office of the Commissioner and Director of Agriculture, Hyderabad, to study the mainstreaming of gender concerns and gender budget of the department.

## **EXT 555      Media Management    2+1**

**UNIT I:** Media Management – introduction, definition, principles and significance of management. Media ownership patterns in India – proprietorship, partnership, private Ltd., public companies, trusts, co-operatives, religious Institutions societies & franchisees (chains), marketing function – product, price, and placement & promotions.

**UNIT II:** Mass communication – meaning, concept, definition and theories of mass communication. The Mass Media – history, functions, uses and theories of media. Journalism – meaning, definition, scope, functions and different types of Journalism. Journalism as communication tool. Farm journalism



-meaning and developments in farm journalism in India. Different problems with farm journalism. Print media – history, the role of the press, news, types of news, electronics of news and sources of news, the making of newspaper & magazines, press codes and ethics, media laws. News story – principles of writing, structure a news story, procedure in writing the news story and the elements of style. Success stories & feature articles – writing for success & feature articles, types of feature articles. Information materials – types of information materials and user. Techniques in book publishing. Editing – principles, tools & techniques and art of proof reading – techniques, measuring readability of writing.

**UNIT III:** Electronic media-role and importance of radio-history, radio role in TOT, writing and presentation techniques, different programmes of farm broadcast, developing content for farm broadcast, Role of FM Radio in Agriculture, Ethics of Broadcasting, Broadcasting Policy and code. community radio – concept, meaning, role of TOT, cases of Community radio. Television – history – role in TOT, fundamentals of television production, techniques of script writing for TV, visual thinking, language & style, farm telecast programmes, cable and satellite TV and their impact, ethics of telecasting, policy and code. Video production technology – potential and its utilization, typology of farm video production, types of video production and equipment used in the production, procedure or technique of video production. Cassette technology – role in TOT, techniques of production of cassettes for the farming community. Traditional media – role of folk media in TOT and integration with electronic media.

**UNIT IV:** Advances in communication Technology – management of agricultural information systems (MAIS). Use of computers in agriculture – application of IT in agriculture. Use of modern communication medium – electronic video, teletext, tele conference, computer assisted instruction, video conferencing – features, advantages, limitations and risk factor involved in new media. Designing and developing of communication and media strategy for developmental programmes. Online Journalism scope & importance.

**Practical:** Exercise on writing for print media – writing news / success stories / feature articles for different topics related to agriculture & allied fields. Exercise of editing & proof reading the farm news for news papers – different types of intro and leads. Exercise of writing for Radio, TV, preparation of story board for farm video production – script writing for Radio and T.V. Visit to media management organizations for studying the principles, procedures and processes in managing the media. Participation and interaction through video conference. Developing communication & media strategy for selected developmental programme / activity.

## **EXT 556                      Communication for Management and Business                      2+1**

**UNIT I:** Introduction to communication, communication process, barriers to communication, effective communication, types of communication in organizations viz. downward, upward, horizontal, static vs dynamic.

**UNIT II:** Non-Verbal Communication, communication through clothes / colours / space / symbol, body language and etiquettes, Interpersonal communication, self-concept and communication, assertive communication.

**UNIT III:** Types of business writing viz. newsletters, reports, folders, fact sheets, press release, readership and writing style – human aspects of writing.

**UNIT IV:** Meeting – planning for meeting, tips for chairing, opening, progress & ending, behaviour of ordinary members, the character of business meeting, Energies for meetings, Group discussions, brain storming sessions and presentations

**UNIT V:** Handling personal communication – letters, dictation, reading, problem-solving, listening skills, self-talk, self-reflection, and steps to personal creativity, public speaking.

**Practical:** Prepare : newsletters, reports, fact sheets, press release, folder, develop a format on business talk, brain storming, group discussion, develop, edit and customize commercial video, CD and audio materials

## **EXT 557            Agric-Supply Chain Management            1+0**

**UNIT I:** Supply chain: changing business environments, SCM: present need, conceptual model of supply chain management, evolution of SCM, SCM approaches, traditional agri supply chain management approach, modern supply chain management approach, elements in SCM.

**UNIT II:** Demand management in supply chain: types of demand, demand planning and forecasting, operations management in supply in supply chain, basic principles of manufacturing management.

**UNIT III:** Procurement management in agri supply chain: purchasing cycle, types of purchase, contract / corporate farming, classification of purchases goods or services, Traditional Inventory management. Material requirements planning, just in time (JIT), vendor managed inventory (VMI).

**UNIT IV:** Logistics management: history and evolution of logistics, elements of logistics management, distribution management, distribution strategies, pool distribution, transportation management, fleet management, service innovation, warehousing, packaging for logistics, third-party logistics (TPL/3PL), GPS technology.

**UNIT V:** Concept of Information technology, IT application in SCM, advanced planning and scheduling, SCM in electronic business, role of knowledge in SCM, performance measurement and controls in agric supply chain management-benchmarking, introduction, concept and forms of benchmarking.

## **EXT 558 Community Mobilizations and Organization Development 2+1**

**UNIT I:** Sociological and psychological perspectives of social institutions, culture, community and community organization; functions of community; rural sociology and its relevance to extension education; social stratification; social changes, conflict in rural society.

**UNIT II:** Communities as vehicles of change; community mobilization - entering, submerging, empowering and governance; outreach, community centres and services; models of community organization in developing countries; social action; challenges in mobilization, advocacy, coalition building and networking, facilitation and mediation; role of NGOs.

**UNIT III:** Rural development – rural context and livelihood, rural poverty, policies, programmes and interventions; rural local self governance – Panchayati Raj; rural-urban migration, social problems, displacement and rehabilitation; rights of indigenous communities; community



bath, water bath, oil bath, Electric wiring and ear thing. Preparation of media and methods of sterilization, Seed viability testing of pollen viability, Tissue culture of crop plants, Description of flowering plants in botanical terms in relation to taxonomy.

## **EXT 601                      Diffusion and Adoption of Innovations                      2+1**

**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.

## **EXT 602                      Participatory Methods for Technology Development and Transfer                      1+1**

**UNIT I:** Participatory extension – Importance, key features, principles and process of participatory approaches, different participatory approaches (RRA, PRA, PLA, AEA, PALM, PAR, PAME, ESRE, FPR) and successful models.

**UNIT II:** Participatory tools and techniques. Space Related Methods: village map (social & resource), mobility services and opportunities map and transect, Time related methods: time line, trend analysis, seasonal diagram. Daily activity schedule, dream map, Relation oriented methods: cause and effect diagram (problem tree), impact – diagram, well being ranking method, Venn diagram, matrix ranking, livelihood analysis.

**UNIT III:** Participatory technology development and dissemination, participatory planning and management, phases and steps in planning and implementation aspects, Process, Participatory monitoring and 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.

### **EXT 603 Project Management in Extension 2+1**

**UNIT I:** Concepts, characteristics of projects, project identification, and project's life cycle.

**UNIT II:** Project feasibility – market feasibility, technical feasibility, financial feasibility, and economic feasibility, social cost-benefit analysis, project risk analysis.

**UNIT III:** Network Methods: meaning, network analysis, requirements for network analysis, critical path method (CPM) , programme evaluation and review technique (PERT), project scheduling and resource allocation.

**UNIT IV:** Financial appraisal / evaluation techniques – discounted cash flows, net present values, profitability index, Internal rate of returns, Cost benefits ration, Accounting rate of returns, Payback period, project implementation, cost overrun, project control and information system.

**UNIT V:** Entrepreneurship, significance of entrepreneurship in economic development qualities of entrepreneur, entrepreneurship development programmes and role of various institutions in developing entrepreneurship, life cycles of new business, environmental factors affecting success of a new business, reasons for the failure and visible problems for business, Developing effective business plans, Procedural steps in setting up of an industry.

**Practical:** Decide on a project and visit the project area for doing the assessment, project title, objectives, duration, methodology, milestones, constraints, output, outcome, impact. Draw the project life cycle based on field visit . Develop SWOT, SA (Stakeholder Analysis), LFA, PERT & CPM, Network, IRR, benefit cost analysis, pay-back period analysis, risk analysis matrix.

### **EXT 604 Market Led Extension 1+0**

**UNIT I:** Agricultural extension at cross roads, changing scenario of agricultural extension at the national level, Market led extension – emerging perspectives, market led extension – issues and challenges, dimensions of market led extension.

**UNIT II:** Agricultural marketing an overview, development of a marketing plan, pricing concepts and pricing strategy, Consumer behavior, Marketing communication and promotional strategies, The marketing research process, agricultural trade liberalization and its impact, International marketing opportunities, implications of AOA, TRIPS and IPRs agreements on agriculture, agreement on SPS and TBT – an over view, commodity features marketing.

**UNIT III:** Public private linkages in market led extension, role of SHG in market led extension, contact farming – a viable approach to meet market challenges, IT enabled approaches for market led extension and communication, Weather service and crop modeling – an effective tool in market led extension.

### **EXT-605 (e-Course) Agricultural Research, Research Ethics and Rural Development Programmes 1+0**

**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 Organizations. Critical evaluation of rural development policies and programmes.

### **EXT 606 (e-Course) Disaster Management 1+0**

**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 organization.

### **EXT 651 Perspective of Distance Education 1+0**

**UNIT I:** Distance education – introduction, meaning, concept, philosophy and its work ethics, characteristics of distance education – evolution and historical view of distance Education – theory methodology, and epistemology, dimensions of distance education, scope and difficulties. Open education - non-formal education, continuing education, education by correspondence.

**UNIT II:** 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.

**UNIT III:** Planning Distance Education – a systems approach student learning – course Planning, the target groups – barriers to learning in distance education – planning and management of networked learning.

