University of Lucknow
M.Sc. (Ag.) Agriculture Extension Programme
Regulations 2020

1. Applicability

These Regulations shall apply to the M.Sc. (Ag.) Agriculture Extension Programme from the session 2020-21.

2. Minimum Eligibility for Admission

i) Bachelor's degree in respective/ related subjects.
ii) 7.0/10 or equivalent OGPA/equivalent percentage of marks at Bachelor's degree.

3. Objectives

i) To raise the standard of living of the rural people by helping them in right use of their resources.
ii) To help in planning and implementing the family and village plans for increasing production in various occupations.
iii) To provide facilities for better family living.

4. Program outcome

Agricultural extension plays a crucial role in boosting agricultural productivity, increasing food security, improving rural livelihoods, and promoting agriculture as an engine of pro-poor economic growth. Extension provides a critical support service for rural producers meeting the new challenges confronting agriculture: transformation in the food and agricultural system, including the rise of supermarkets and the growing importance of standards, labels, and food safety; growth in nonfarm rural employment and agribusiness; constraints that affect rural livelihoods.

M.Sc. (Ag.) Agricultural Extension

NAME OF DEPARTMENT: AGRICULTURAL EXTENSION

S.N.	Code	Course title	Credit	
			T	P
SEMESTER I				
1.	AEXMA-101	Development Perspectives of Extension Education	2	1
2.	AEXMA-102	Development Communication and Information Management	2	1
3.	AEXMI-101	Visual Communication	2	1
4	AEXSS-101	Statistical Methods for Social Sciences	2	1
5	AEXMA-103	E-Extension	2	1
6	AEXNC-101	Library and Information Services	-	-
7	AEXNC-102	Basic Concepts in Laboratory Techniques	-	-
8	AEXRES-101	Research Work	0	2
		Credit	10	7
		Total Credits	**17**	
SEMESTER II				
1.	AEX MA-201	Research Methods in Behavioral Sciences	2	1
2.	AEXMA-202	Entrepreneurship Development and Management in Extension	2	1
3.	AEXMI-201	International Trade	2	1
4.	AEXSS-201	Non-Parametric	2	1
5.	AEXNC-201	Agricultural Research, Research Ethics And Rural Development Programmes	-	-
7	AEXNC-202	Disaster Management	-	-
8	AEXRES-201	Research Work	0	4
		Credits	8	8
		Total Credits	**16**	
SEMESTER III				
1.	AEXMA-301	Diffusion and Adoption of Innovations	2	1
2.	AEXMA-302	Human Resource Development	2	1
3.	AEXMI-301	Gender Sensitization for Development	2	1
4	AEXNC-301	Technical Writing and Communications Skills	-	-
5	AEXSE- 301	Masters Seminar	0	1
6	AEXRES-301	Research work	0	6

		Credits	6	10
		Total Credits	**16**	
		SEMESTER IV		
1	AXECNCC-401	Intellectual Property and Its Management in Agriculture	-	-
2	AEXRES -401	Research Work, Research Report and Viva-Voce		08
		Credit	8	
		Grand Total Credits	**57**	

COURSE CONTENTS

FIRST SEMESTER

AXE-MA101: Development Perspectives of Extension Education Credit-3(2+1)

Objective

The course is intended to orient the students with the concept of extension education and its importance in Agriculture development and also to expose the students with various Rural development programmes aimed at poverty alleviation and to increase employment opportunites and their analysis. Besides, the students will be learning about the new innovations being brought into the Agricultural Extension in India.

Theory

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

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.

AXE-MA 102:Development Communication and Information Management Credit-3 (2+1)

Objective

In this course, students will learn about the concept, meaning and process of communication and various methods and modern media of communication.Besides, the students will also learn the information management and journalistic writing of various information materials and also study their readability.

Theory

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

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.

AXEMI101-508:Visual Communication Credit-3(2+1)

Objective

This course is intended to give a clear perspective about the importance of visuals and graphics in communication. The course starts with the delineating about the characteristics of visuals and graphics followed by its main functions, theories of visual perception and its classification and selection. Further, the course deals with the designing the message, graphic formats and devices and presentation of data. It makes the students to understand, prepare and present the scientific data effectively by using low cost visuals. The course also exposes the students to various Digitized video material in multimedia and also enable to design visuals for print, TV and know-how about scanning of visuals.

Theory

UNIT I

Role of visuals & graphics in Communication.Characteristics of visuals & graphics.Functions of visuals and graphics.Theories of visual perception.Classification and selection of visuals.

UNIT II

Designing message for visuals, Graphic formats and devices.Presentation of Scientific data.Principles and procuction of low cost visuals.

UNIT III

Photographs- reprographic visuals. PC based visuals. Degitized video material in multimedia production. Designing visuals for print and TV and video.

UNIT IV

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 Harcleroad. 1952. *A.V. Instructional Material & Methods*. Mc.Graw Hill.
Reddy YN. 1998. *Audio Visual Aids in Teaching, Training and Extension*. Haritha Publ. House, Hyderabad.

AEXSS101: Statistical Methods for Social Sciences Credit3(2+1)

Theory

Objective

This course is meant for students who do not have sufficient background of Statistical Methods. The students would be exposed to concepts of statistical methods and statistical inference that would help them in understanding the importance of statistics.

Unit-I

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 distribution: Binomial, Poisson, Negative Binomial, Normal distribution, Beta and Gamma distributions and their application

Unit-II

Introduction to theory of estimation and confidence-intervals.Multiple regression and correlation, non linear regression, Regression diagnostics.Selection of variables.Adequacy of models. Application of multivariate analysis.

Unit-III

Probability sampling, Sampling distribution, Simple random sampling.Estimation of proportions, confidence interval, determination of sample size, inverse sampling.Sampling with varying probabilities with replacement.Stratified sampling.Ratio and regression methods of estimation. Cluster sampling. Multi - stage sampling. Self weighting designs. Systematic sampling

Unit-IV

Test of significance of correlation coefficient and regression coefficients. Polynomial models and regression fitting of their parameters.Profit regression analysis by least squares and maximum likelihood methods

Practical

Exploratory data analysis, Box-Cox plots; fitting of distribution-binomial, poisson, negative, large sample tests, testing hypothesis based on exact sampling distributions- chi square, t and F; confidence interval estimation and point estimation of parameters of analysis

Suggested readings

Anderson TW (1958) An Introduction to Multivariate Statistical Analysis. John Wiley.

Hoel PG (1971) Introduction to Mathematical Statistics.John Wiley.

SECOND SEMESTER

AEX-MA 1032: Research Methods in Behavioural Science credit-3(2+1)

Objective

This course is designed with a view to provide knowledge and skills in methods of behavioural sciences research and student will learn the Statistical Package for Social Sciences (SPSS) for choosing appropriate statistics for data analysis.

Theory

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

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 &SagarMondal. 1999. *Research methods in Social Sciences and Extension Education*. NayaProkash.

Wilkinson TS &Bhandarkar PC.1993.*Methodology and Techniques of Social Research*.Himalaya Publ.Home.

AEX-MA202: E- Extension **Credit - 3(2+1)**

Objective

Students will gain knowledge and skills in understanding the concepts of Information and communication technologies and how these ICT tools can be used for Agricultural Extension. Besides, he studies various ICT projects which are successful in delivering the services to the clientele fulfilling the objective of Transfer of Technology i.e. Reaching the unreached.

Theory

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

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.

Suggested Readings

Batnakar 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.

AEX-MA 203:Entrepreneurship Development and Management in Extension credit-3(2+1)

Objective

The first part of the course is intended to provide overall picture of planning and development of enterprises for extending sustainable livelihoods for rural people. The second part of the course is structured to help the students to gain knowledge and skills in different concepts and techniques of management in extension organizations.

Theory

UNIT I

Entrepreneurship – Concept, characteristics, Approaches, Theories, Need for enterprises development.Agri – entrepreneurship – Concept, characteristics, Nature and importance for sustainable Livelihoods.Traits of entrepreneurs – Risk taking, Leadership, Decision making, Planning, Organising, Coordinating and Marketing, Types of Entrepreneurs. 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 Agri 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 subordination 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 relations.

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

ofdecision making-Designing organizational structure -Group activity on leadershipdevelopment skills.

Suggested Readings

Gupta CB. 2001. *Management Theory and Practice*. Sultan Chand & Sons.
Indu Grover. 2008. *Handbook on Empowerment and Entrepreneurship*. AgrotechPublic 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*. HimalayaPubl. House.

AEX-MI 201 : International Trade **Credit-2(1+1)**

Theory

Unit-I

International trade-basic concepts.The theory of international trade absolute and comparative advantage, international trade equilibrium.Trade policy-protection, tariff and non-tariff measures, trade liberalization.

Unit-II

WTO/GATT supply side analysis; opportunity cost; trade under increasing opportunity costs; factor endowments; trade and factor prices; factor price equalization. Demand side analysis; community indifference curves; demand and international trade. Integration of demand and supply; offer analysis; general equilibrium; equilibrium in product and factor markets.

Unit-III

Application of trade theory; terms of trade; supply and demand shifts; technological change; factor supplies and trade; factor intensities; transport costs, location. Trade with many goods and countries; Leontief paradox; human skills; technological gaps; the product cycle; scale economics. Trade policy protection; tariff and non-tariff measures; trade and market structure; trade liberalization; factor mobility and movement; role of multinational enterprises.

Unit-IV

International finance; institutional money and credit markets; foreign exchange markets.Balance of payments analysis funds flow; capital and current account.International adjustment mechanisms; fiscal and monetary adjustments.The international monetary system; Bretton

Woods to WTO.Recent developments in the international trade system.Implications for developing countries. Trade Blocks

PRACTICAL

1. Determination of absolute and comparative advantage.
2. Gains from trade with fixed exchange rates.
3. Estimation of terms of trade.
4. Derivation of offer curves and effects of technological change and factor supply.
5. Estimation of protection coefficients.
6. Measurement of effects of tariff imposition.
7. Effects of tariff and non-tariff barriers on domestic supply and imports.
8. Preparation of BOP accounts.

AEX- SS -201: Non-parametricCredit-3(3+0)
Theory
Objective
This course lays the foundation of all other courses of Statistics / Agricultural Statistics discipline by preparing them to understand the importance of Non-parametric test in research.

Unit-I

Non-parametric test Sign-test, Wilcoxon matched pairs, Signed rank test, Mann Whitney U test, Wald-Wolfowitz run test, Median test.

Unit-II

Correlation, Rank correlation, Regression analysis, Introduction to Factor analysis and Path analysis.

Unit-III

Chi-square test for homogeneity, independence and goodness of fit.

Unit-IV

Analysis of time series data. Index numbers, moving averages.

THIRD SEMESTER

AEX-MA 301 :Diffusion and Adoption of Innovations Credit-3(2+1)

Objective

The students will learn how the agricultural innovations spread among the farmers in the society by getting into the insights of diffusion concept and adoption process, stages of adoption and innovation decision process, adopter categories and their characteristics, opinion leaders and their characteristics, attributes of innovations, and factors influencing adoption. In addition, the students would be learning various concepts related to diffusion and adoption of innovations.

Theory

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

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.

AEX-MA 302 :Human Resource Development **Credit-3(2+1)**

Objective

To orient the students about key concepts importance, scope & conceptual frame work, growth & development of Human Resource Development, Subsystems of Human Resource Development for extension organization and process of HRD.

Theory

UNIT I

Human Resource Development – Definition, Meaning, Importance, Scope and Need for HRD; Conceptual frame work, inter disciplinary approach, 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: Indian environment perspective on cultural process and social structure, society in transition; Organizational and Managerial values and ethics, organizational commitment ; Motivation productivity - job description – analysis and evaluation; Performance Appraisal.

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 behaviour, learning, and perception ; Stress and coping mechanisms; Inter-Personal Process, Helping Process – communication and Feedback and interpersonal styles; 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 Stills required for Extension workers; Decision Making: Decision Making models, Management by Objectives; BehaviouralDynamics :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

Visit to different training organizations to review on going 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.

PunnaRao 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.

SubbaRao P. 2005. *Management & Organizational Behaviour*.Himalaya Publ. House.

Sundaram RM, Gupta V, George SS. 2006. *Case Studies in Human Resource Management*. ICFAI, Hyderabad.

Tripati& Reddy. 2004. *Principles of Management*. Tata McGraw-Hill.

Wayne MR & Robert MN. 2005. *Human Resource Management*. International Ed. Pearson Prentice Hall.

AEX-MI 301 :Gender Sensitization for Development Credit-3(2+1)

Objective

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.

Theory

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

UNIT-IV

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 women 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.

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.

COMPULSORY NON-CREDIT COURSES

(Compulsory for Master's programme in all disciplines

CODE	COURSE TITLE	CREDITS
CNCC-01	LIBRARY AND INFORMATION SERVICES	0+1
CNCC-02	TECHNICAL WRITING AND COMMUNICATIONS SKILLS	0+1
CNCC-03	INTELLECTUAL PROPERTY AND ITS MANAGEMENT IN AGRICULTURE	1+0
CNCC-04	BASIC CONCEPTS IN LABORATORY TECHNIQUES	0+1
CNCC-05	AGRICULTURAL RESEARCH, RESEARCH ETHICS AND RURAL DEVELOPMENT PROGRAMMES	1+0
CNCC-06	DIASTER MANAGEMENT	1+0

CNCC-101 : LIBRARY AND INFORMATION SERVICES 0+1

Objective

To equip the library users with skills to trace information from libraries efficiently,to apprise them of information and knowledge resources, to carry out literaturesurvey, to formulate information search strategies, and to use modern tools(Internet, OPAC, search engines etc.) of information search.

Practical

Introduction to library and its services; Role of libraries in education, research andtechnology transfer; Classification systems and organization of library; Sources ofinformation- Primary Sources, Secondary Sources and Tertiary Sources;Intricacies of abstracting and indexing services (Science Citation Index, BiologicalAbstracts, Chemical Abstracts, CABI Abstracts, etc.); Tracing information fromreference sources; Literature survey; Citation techniques/Preparation of bibliography; Use of CD-ROM Databases, Online Public Access Catalogue andother computerized library services; Use of Internet including search engines andits resources; e-resources access methods.

CNCC-301: TECHNICAL WRITING AND COMMUNICATIONS SKILLS 0+1

Objective

To equip the students/scholars with skills to write dissertations, research papers,etc.
To equip the students/scholars with skills to communicate and articulate in English (verbal as well as writing).

Practical

Technical Writing **-** Various forms of scientific writings- theses, technical papersre views, manuals, etc; Various parts of thesis and research communications (titlepage, authorship contents page, preface, introduction, review of literature, materialand 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 reviewarticle.

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.

CNCC-401: INTELLECTUAL PROPERTY AND ITS (e-Course) MANAGEMENT IN AGRICULTURE 1+0

Objective

The main objective of this course is to equip students and stakeholders with knowledge of intellectual property rights (IPR) related protection systems, their significance and use of IPR as a tool for wealth and value creation in a knowledgebased economy.

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.

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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.

CNCC-102: BASIC CONCEPTS IN LABORATORY TECHNIQUES 0+1

Objective

To acquaint the students about the basics of commonly used techniques in laboratory.

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.

CNCC-201 : AGRICULTURAL RESEARCH, RESEARCH ETHICS 1+0 (e-Course) AND RURAL DEVELOPMENT PROGRAMMES

Objective

To enlighten the students about the organization and functioning of agricultural research systems at national and international levels, research ethics, and rural development programmes and policies of Government.

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 ellowships 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.

CNCC-202: DISASTER MANAGEMENT 1+0
(e-Course)

Objectives

To introduce learners to the key concepts and practices of natural disaster management; to equip them to conduct thorough assessment of hazards, and risks vulnerability; and capacity building.

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.