U. P. Education Service Selection Commission, Prayagraj

Syllabus

AGRICULTURAL EXTENSION

(Subject Code-89)

Unit 1: Fundamentals of Extension Education and Communication

Extension Education and Advisory Services- concept, principles and approaches; Similarities and dissimilarities among extension education, adult education and continuing/distance education; Historical and emerging perspectives of agricultural, veterinary, animal husbandry and fisheries extension education in India and other countries; Community Development and Integrated Rural Development Programmes-concept, principles and objectives; Role of agricultural extension in different sectors of agriculture and rural development; National Agricultural Extension System and Reforms; Public extension systems– ATMA and KVK; National Mission on Agricultural Extension and Technology; Private extension system; Pluralism in extension; Research-Extension-Farmer Interface- Farming System Research & Extension; Agricultural Knowledge and Information System (AKIS); Farmers Field School, Participatory approaches, participatory technology development; Technology Assessment and Refinement; Programmes and schemes for agriculture, animal husbandry, dairy, fisheries, and rural development implemented by Govt. of India; Impact analysis of extension programmes; Concept, elements and models of communication; Credibility, fidelity, empathy and feedback in communication; Problems and barriers in communication; Distortion and noise in communication; Group and mass communication, Interpersonal and Intrapersonal communication, social networks in communication; Art & Science of public speaking Human behavioural dimensions in extension education- perception, attitude and emotions; Factors affecting attitude change; Theories of personality and motivation; Understanding of basic rural institutions, social structure, culture and norms; Social and technological change processes, group dynamics, concepts and theories of rural leadership.

Unit 2: Extension Methods & Agricultural Journalism

Concepts of andragogy and pedagogy; Human behavioural dimensions in extension- behaviorism, cognitivism, constructivism; Factors influencing human behaviour; Types of learning; Domains of learning-cognitive, affective and psychomotor; Learning theories; Experiential learning; Concepts and elements of teaching and learning processes; Principles of learning; Edgar Dale's Cone of experience; Classification and features of different extension methods; Selection, planning and use of Extension methods like demonstration, exhibition, farmers fairs, field days, tours, extension literature, etc.; Preparation and presentation of different projected and non-projected audio-visual aids; Basics of agricultural journalism; Types of publications-bulletins; Folders, leaflets, booklets, newsletters, popular and scientific articles; Basics of writing, readability and its indices: Principles of visual design, fundamentals of layout and design, preparation of radio/video script; Principles of photography and its use in extension, traditional media for communication in development programmes.

Unit 3: Information Communication Technologies

Concept of ICT and its role in agriculture and rural development; ICT tools- print and electronic media, community/ internet radio, e-mail, Internet, use of multimedia, use of mobile apps, video and teleconferencing, computer-assisted instructions, touch screens, micro-computers, web technologies and information kiosks; Social media- features and applications; Websites, portals, expert system, Decision Support Systems (DSSs) and apps related to agriculture, dairy, veterinary, fishery, and marketing, etc.; m-learning, e-learning; e-learning platforms– MOOCs, OER, etc.; Digital agriculture- applications of artificial intelligence (AI), IoT, GIS, GPS, Blockchain Technology; Big data analytics in extension; Market intelligence and information systems in agriculture, networking system of information and challenges in the use of ICT; Types of network-PAN, LAN, WAN, human computer interactions-meaning; Theories of multimedia learning- Sweller's cognitive load theory, Mayer's cognitive theory of multimedia learning, Schnotz's integrative model of text and picture comprehension, Van Merriënboer's four-component instructional design model for multimedia learning; Basic principles of multimedia learning.

Unit 4: Training & Human Resource Development

Human resources and their importance in agricultural development; Concept of human resource management; Training and development of human resources; Training Need Assessment– concept, methods and impact assessment; Training– concept and types; training process- different phases of training; Models of training; Designing training curriculum; Training strategies- academic strategy, laboratory strategy, activity strategy, personal development strategy, organisational development strategy; Training methods; Factors determining selection of methods; Need and principles of capacity development; Process of capacity development; Levels of capacity- individual, organization, enabling environment; Human resource development- manpower planning, role analysis, role efficacy, induction training, job enrichment, self-learning mechanisms, counselling, mentorship, performance appraisal and feedback; Career development; Evaluation of training- types, levels, and models.

Unit 5: Research Methodology in Extension Education

Types and stages of social research; Research problems and problem statements, hypothesis; Variables-concept and types; Research design- MAXMINCON Principle; Types of research designs- experimental, quasi-experimental, cross-sectional, longitudinal, case study, comparative; Mixed methods designs; Threats to internal and external validity; Measurement – meaning, postulates and levels of measurement; Reliability and Validity of instruments; Sampling designs- probability and non-probability sampling; Methods of observation- interviews and interviews schedules, semi-structured interviews, sociometry, semantic differential, Q methodology, projective techniques; Focus group discussion; Participant and non-participant observation; Techniques of scale construction- paired-comparison, equal appearing interval, summated rating; Item analysis; Scalogram analysis; Development of knowledge test; Methods of constructing indexes; Qualitative research; Parametric and nonparametric statistics for data analysis in social research; Tests of significance; Processing of data, coding-tabulation; Analysis and interpretation; Report writing; Ethics in social research.

Unit-6: Program planning, evaluation and impact assessment

Program planning and development-concepts and steps; Logic framework approach (LFA) for planning and management of program; Program Evaluation-concept, objectives, principles, criteria, and theories; Difference between monitoring and evaluation; Evaluation process; Steps in programme evaluation; Types of Evaluation; Objective oriented, management oriented; Context evaluation, input evaluation, process evaluation, product evaluation, consumer oriented evaluation, expertise oriented evaluation, adversary oriented evaluation, naturalistic and principal oriented evaluation, Goal free evaluation and meta evaluation; Levels of Bennett's hierarchy; Evaluation models- Logic model, Kirkpatrick's model, Stufflebeam's model; Programme management techniques; SWOT analysis, Bar Charts, Programme Evaluation and Review Technique (PERT), Critical Path Method (CPM), differences between PERT and CPM, advantages and disadvantages; Defining impact and impact assessment; Impact assessment vs impact evaluation; Social impact assessment –stages and approaches; Theories of change; Criteria and indicators; Quantitative and qualitative techniques for impact assessment.

Unit 7: Extension Management and Organizational behaviour

Concept and principles of administration and management, classical and modern theories, schools of management thought; Functions of management- planning, organizing, staffing, directing and leading, controlling, coordinating, reporting and budgeting; Leadership styles and theories; Decision-making in organization; Organizational effectiveness, organizational climate, organizational development, job satisfaction and morale; Time management; Performance appraisal; Coordination at different levels of extension management, methods of coordination; Management by Objective (MBO) and Total Quality Management (TQM); Project Management Techniques; Power and Conflicts in Organizations; Organizational Communication-concepts, channels; Organizational climate, Organizational culture vs. climate; Characteristics of organizational culture, creating and maintaining organizational culture; Organizational change, individual and group behaviour in organization; Team building process; Problem solving techniques, & negotiation, motivational theories & techniques, work motivation; Transactional analysis; Managing Stress, conflict and Emotions; Creativity-concept and process; Interventions for organizational development-interpersonal interventions, team interventions, structural interventions, comprehensive interventions, mobilization and empowerment skills; Concept and strategies in mobilization, concretisation and empowerment of rural people.

Unit 8: Entrepreneurial Development

Entrepreneurship- concepts, traits, and theories; Entrepreneurial characteristics and motives; Entrepreneurial competencies; Entrepreneurial motivation- need for power; Achievement, affiliation and autonomy; Achievement motivation syndrome; Simulation games and exercises for developing entrepreneurial competencies– risk taking, self-efficacy, creativity, achievement planning, influencing process, problem solving; Entrepreneurship development cycle; Entrepreneurial environment- internal and external factors influencing emergence of entrepreneurship; Barriers to entrepreneurship; Women Entrepreneurship, social entrepreneurship; Programmes and agencies promoting entrepreneurship; Types and techniques of training for developing entrepreneurial

activities in various areas; Agripreneurship- agri-clinics and agribusiness centers; Micro Finance, start-ups, SHGs, FPO, cooperatives.

Unit 9: Agricultural Innovation System and extension approaches

Innovation- concepts and attributes; Innovation generation process; Role of extension in agricultural innovation system, role of enabling environment- policies and institutions, innovation platforms; Role of innovation brokers, scaling up knowledge for innovation, identification, characterization, documentation, validation and upscaling of ITKs and grassroots innovations; Diffusion of innovations- concept, elements, models, and theories; Innovation development process (technology generation and promotion); Adoption- concept, process, models, adopter categories and their characteristics; Factors influencing adoption; Diffusion network-opinion leadership, models of communication flows; Communication network analysis and theories; Change agents; Concept and stages of innovation-decision process; Consequences of innovations; New approaches and domains of extension- demand-driven extension, market-led extension (value chain extension), farmers-led extension, group-led extension, public-private partnership based extension system; Participatory approaches for technology development and application; Engagement of voluntary and farmers' organizations in extension; Gender sensitive extension; Privatization of extension; Roles and approaches of extension for enhancing capacity of communities for climate change adaptation; Nutri- sensitive agriculture, agri-preneurship, agri-tourism, and urban and peri-urban agriculture; Extension and Sustainable Development Goals (SDGs); Stakeholders' analysis, linkages and strategic partnerships; Sustainable rural livelihood- sustainable livelihood approaches (SLAs).

Unit 10: Gender Sensitization and Empowerment

Concepts of Gender- gender roles, gender equality, gender equity; Gender relations, gender balance, gender bias, gender blindness, gender needs- practical and strategic, issues in agriculture and extension; Gender mainstreaming- approaches and methods; Gender analysis framework and tools; Gender empowerment measures; Dimensions and methodologies for empowerment; Gender impact assessment; Gender budgeting; Gender specific technologies; Gender dimensions in food and nutritional security: Women's empowerment-principles, framework and dimensions; Strategies and barriers for women empowerment; Empowerment through SHG, financial inclusion, micro-finance, internet and education; Women entrepreneurship; Public-private partnership for the economic empowerment of women; Building rural institutions for women empowerment; Digital women rights, constitutional provisions; Global and national policies and mission for empowerment of women; Government programmes and schemes for women.

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