SR University,Warangal

PhD Entrance Syllabus

Structure of the PhD Entrance Test (100 Marks)
Section A: Aptitude and Reasoning – Common to all candidates (50 Marks)
Section B: Subject-Specific (AGRICULTURAL EXTENSION) (50 Marks)

Section A: APTITUDE & REASONING (Common to ALL)

Unit–1: Verbal Reasoning

Navigating Directions and Mastering Distances, Blood Relations, Logical Puzzles and Problem Solving- Floor Based, Month and Year Based. Seating Arrangements - Circular, Linear, Decoding the Code- Letter Coding, Number Coding, Letter and Number Coding.

Unit-2: Number System

Mastering Quick Calculations, BODMAS Simplified, Exploring Numbers and Division Rule, Unit Digits Decoded, Unlocking Divisibility and Counting Zeroes, "Mastering LCM and HCF: Foundations of Factorization, Uncovering Factors, Exploring Remainders.

Unit-3: Arithmetic Ability-1

Percentages - Fraction, Decimal, Percentage Change, Concept of 'By' and 'To', Product Constancy, All About Averages, Profit & Loss Essentials, Articles, False Weight, and Discount Insights - Discount, Simple Interest: Calculations and Applications, Compound Interest: Calculations and Applications, Relationship between SI and CI.

Unit–4: Arithmetic Ability-2

Ratio, Proportion, Partnership, Problems on Ages, Time and Work - Concept of Efficiency, Smart Work with Time and work, Negative Work, Chain Rule, Pipes and Cisterns, Time, Speed & Distance, Problems based on Trains, Problems based on Boats and Streams.

Unit-5: Critical Reasoning

Analogy and Classification, Sequence and Series Logic, Syllogisms - Types of statements, Venn diagrams using statements, Method to solve problems Two Statements and Two Conclusions, EITHER-OR Conclusions, Four Statements and Two Conclusions.

SCHOOL OF AGRICULTURE

SR University, Warangal

Section:B

AGRICULTURAL EXTENSION/EXTENSION EDUCATION/COMMUNICATION

I. 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 Missionon 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.

II. Extension Methods &Agricultural Journalism

Concepts of and ragogy and pedagogy; Human behavioral dimension 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 projectedandnon-projectedaudio-visualaids;Basicsofagriculturaljournalism; 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.

III. 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, touchscreens, micro-computers, web technologies and information kiosks; Social media- features and applications; Websites, portals, expert system, Decision Support Systems (DSSs) and apps relatedtoagriculture,dairy,veterinary,fishery,andmarketing,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.

IV. 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, organizational 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-man power planning, role analysis, role efficacy, induction training, job enrichment, self-learning mechanisms, counseling, mentorship, performance appraisal and feedback; Career development; Evaluation of training-types, levels, and models.

V: 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 to 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 non-parametric statistics for data analysis in social research; Tests of significance; Processing of data, coding-tabulation; Analysis and interpretation; Report writing; Ethics in social research.