

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 (Agronomy) (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

Department of Agronomy

SR University, Warangal

Section:B Agronomy Syllabus for Ph.D Entrance Examination

I. Weed Management

Weed classification, biology, ecology and allelopathy; Weed seed dormancy, Crop weed competition, Herbicides classification, formulations, mode of action, selectivity and resistance; Application methods and equipment; Cultural, physical, chemical and biological weed control, bio-herbicides: Integrated weed management; Special weeds, parasitic and aquatic weeds and their management in cropped and non-cropped lands.

II. Dryland Agronomy: Dryland farming Vs rainfed farming; History, development, significance and constraints of dryland agriculture; Climatic classification and delineation of dryland tracts. Types of drought, effect on plant growth, drought resistance, drought avoidance, drought management; Techniques of moisture conservation in-situ to reduce evapotranspiration, runoff and to increase infiltration; Rain water harvesting, watershed management in dryland areas.

III. Irrigation Water Management

Water resource development; Crop water requirements; Concepts of irrigation scheduling, Different approaches of irrigation scheduling; Concept of critical stages of crop growth in relation to water supplies; Methods of irrigation viz. surface, subsurface and pressurized irrigation methods, merits and demerits; Measurement of irrigation water, application and distribution efficiencies. Conjunctive use of water.

IV. Cropping and Farming Systems and Organic Farming

Cropping system, Interaction and indices; LEIA, HEIA and LEISA; Farming systems – type – biological and organic farming; Soil health and organic matter and Integrated organic farming systems; IFS – concepts, models for different ecosystem, resource recycling and evaluation.

V. Crop Production & Agricultural Statistics

Crop production techniques for cereals, millets, pulses /grain legumes, oilseeds, fiber crops, sugarcane, tobacco, fodder and pasture crops including origin, history, distribution, adaptation, climate, soil, season, modern varieties, seed rate, fertilizer requirements, crop geometry, intercultural operations, water requirement, weed control, harvest, quality components, industrial use, economics and post-harvest technology. Design of experiments and their basic principles, completely randomized, randomized block, split plot.