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 (Cognitive Science) (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.

Department of Basic Sciences
School of Sciences & Humanities
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Section:B Cognitive Science Syllabus for Ph.D. Admission Eligibility Test

Module I: Brain and Neuron

Neuron - structure and function, Nervous system, Structure and function of different brain regions (Occipital, parietal, temporal, frontal lobes, Broca's area, Visual cortex, Hippocampus, Amygdala, etc).

Module II: Attention, perception, and memory

Types of attention (Covert, Overt), Selective attention, Theories of attention, sensation, perception, attentional blink, types of memory (long-term, short-term, declarative, procedural, iconic, etc), Knowledge representation, Recall, Recognition, Serial memory, Visual search, Top-down and bottom-up processing. Neuropsychological disorders related to attention, perception, and memory. Theories of attention and perception (Feature integration theory, Gestalt principles, etc.)

Module III:Decision making, problem solving

Logic, Different types of reasoning – Deductive, Inductive, Abductive; Cognitive biases, Problem solving – algorithms and heuristics, Problem solving strategies. Neural basis of decision making

Module IV: General Psychology

Origin, Nature, Scope and significance, Early pioneers, Contemporary perspectives and domains of psychology, Research methods in psychology, Overview of personality, Trait theories, Psychoanalytic theory, Humanistic theories and behavioural and social learning perspective, Emotions, Personality and EQ, Models of EI

Module V: Empirical Methods in Cognitive Psychology

Behavioural studies, Signal detection theory, Basics of Psychophysics, Qualitative and quantitative methods, Electroencephalography (EEG), Functional Magnetic Resonance Imaging (fMRI), Positron emission tomography (PET), Magnetoencephalography (MEG) and their applications in cognitive psychology.