SYLLABUS : Junior Scientific Assistant (Lie Detection) in FSL

. Biological basis of behavior

Sensory systems: General and specific sensations, receptors and processes, Neurons: Structure, functions, types, neural impulse, synaptic transmission. Neuro-transmitters. The Central and Peripheral Nervous Systems – Structure and functions. Neuro plasticity. Methods of Physiological Psychology: Invasive methods and Non-invasive methods, Biological basis of Motivation: Hunger, Thirst, Sleep and Sex, Biological basis of emotion: The Limbic system, Hormonal regulation of behavior. Genetics and behavior: Chromosomal anomalies; Nature-Nurture controversy [Twin studies and adoption studies]

. Psychological testing

Types of tests, Test construction: Item writing, item analysis, Test standardization: Reliability, validity and Norms, Areas of testing: Emotions, Aggression, Intelligence, creativity, neuropsychological tests, aptitude, Personality assessment (Projective and non-projective), interest inventories, Attitude scales – Semantic differential, Staples, Likert scale, Computer-based psychological testing, Malingering Assessment-Identification and Evaluation, tools for measurement of criminal tendencies, correctional settings

Attention, Perception, Learning, Memory, and Forgetting

Attention: Forms of attention, Models of attention, Perception: Approaches to the Study of Perception: Gestalt and physiological approaches Perceptual Organization: Gestalt, Figure and Ground, Law of Organization, Perceptual Constancy: Size, Shape, and Color; Illusions, Perception of Form, Depth and Movement, Role of motivation and learning in perception, Signal detection theory: Assumptions and applications, Subliminal perception and related factors, information processing approach to perception, culture and perception, perceptual styles, Pattern recognition, Ecological perspective on perception. Theories of development: Psychoanalytical, Behavioristic, and Cognitive, Various aspects of development: Sensory-motor, cognitive, language, emotional, social and moral. Learning Process: Fundamental theories: Thorndike, Hull, Classical Conditioning: Procedure, phenomena and related issues, Instrumental learning; Reinforcement: Basic variables and schedules; Behavior modification and its applications, Cognitive approaches in learning: Latent learning, observational learning. Verbal learning and Discrimination learning, Recent trends in learning: Neurophysiology of learning, Memory and Forgetting, Memory processes: Encoding, Storage, Retrieval Stages of memory: Sensory memory, Short-term memory (Working memory), Long-term Memory (Declarative – Episodic and Semantic; Procedural) Theories of Forgetting: Interference, Retrieval Failure, Decay, Motivated forgetting, Eye Witness Testimony.

Thinking, Intelligence and Creativity

Theoretical perspectives on thought processes: Associationism, Gestalt, Information processing, Concept formation: Rules, Types, and Strategies; Role of concepts in thinking Types of Reasoning Language and thought, Problem solving: Type, Strategies, and Obstacles, Decision-making: Types and models, Meta cognition: Meta cognitive knowledge and Metacognitive regulation Intelligence: Spearman; Thurstone; Jensen; Cattell; Gardner; Stenberg; Goleman, Creativity: Torrance, Getzels & Jackson, Guilford, Wallach & Kogan Relationship between Intelligence and Creativity.

Personality, Motivation, emotion, stress and coping

Determinants of personality: Biological and socio-cultural, Approaches to the study of personality: Psychoanalytical, Neo-Freudian, Social learning, Trait and Type, Cognitive, Humanistic, Existential, Transpersonal psychology. Other theories: Rotter's Locus of Control, Seligman's Explanatory styles, Kohlberg's theory of Moral development. Basic motivational concepts: Instincts, Needs, Drives, Arousal, Incentives, Motivational Cycle. Approaches to the study of motivation:

Psychoanalytical ,S-R Cognitive, Humanistic, Exploratory behavior and curiosity, Zuckerman's Sensation seeking, Achievement, Affiliation and Power, Motivational Competence, Self-regulation, Flow, Emotions: Physiological correlates, Theories of emotions: James-Lange, Canon-Bard, Schachter and Singer, Lazarus, Lindsley. Emotion regulation, Conflicts: Sources and types, Stress and Coping: Concept, Models, Type A, B, C, D behaviors, Stress management strategies.

: Psychopathology and Criminal Behavior

Concept, Case Study, Mental Status Examination, classification and causes, ICD-11, DSM-V, Criminal Behavior: Definition Sign and Symptoms, Psycho-social and Biological Determinants of Crime Personality (Concept and Theories): Type Approach, Trait Approach, Psychodynamic Approach, Behavioral Approach, Developmental Psychology and Criminal Behavior, Cognitive Psychology and Criminal Behavior.

Forensic Psychology: Investigation and Assessment

Forensic Psychology: Definition, History, Nature, Scope and Training , Forensic Psychology in India , Ethical and Legal issues in Forensic Psychology Practice, Investigation and Assessment in Forensic Psychology, Crime scene analysis and Investigation, Criminal Profiling, Psychological Autopsy, Investigative Interview and Interrogation, Forensic Psychological Instruments used to assess Criminal Behavior: Brain Mapping Techniques, Polygraph, NARCO Analysis, Voice stress analysis, Eye detect system etc.,

Introduction to Criminology and Victimology

History, Introduction to Crime and Criminology and Criminal Justice, Crime and Criminal Typology, Introduction to Criminal Justice System , Crime Prevention, Theories of Crime, Pre-Classical, Classical, Neo-Classical and Positivist School of Criminology , Sociological theories of Crime , Other theories of Crime Introduction to Victimology, Definition and key concepts in Victimology , Typology and Impact of Victimization ,Contemporary Developments in Victimology.

Criminal Laws and Penology

Criminal Laws(IPC, CrPC, IEA) and Introduction to The Bharatiya Nyaya Sanhita, 2023, The Bharatiya Nagrik Suraksha Sanhita (BNSS), 2023 and The Bhartiya Sakshya Adhiniyam, 2023 and comparison between old and new criminal laws, Special and Local Laws, Penology and Correctional Administration, Penology: Definition, nature and scope ,Theories of punishment , Classification system of correctional institutions: Adult institutions, juvenile institutions, women institutions, open prisons ,Community based corrections.

: Research Methodology and statistics

Meaning, Purpose and Dimensions ,Research problems, Variables, Hypothesis, Sampling, Ethics in conducting and reporting research , Quantitative, Qualitative approach, Methods of research: Observation, Survey [Interview, Questionnaires], Experimental design, Descriptive, Statistics in Psychology: Measures of Central Tendency and Dispersion, Normal Probability Curve ,Parametric and Non-parametric tests, Correlation.