UNIT-I

**Introduction:** Nature and scope of psychology, Methods: experimental, observation, questionnaire and interview.

**Biological bases of Behaviour:** Genes, glands and hormones; Nervous system: Neurons and Synapses, Central Nervous System and Peripheral Nervous System.

**Consciousness:** Nature of consciousness; Changes in consciousness, Daydreaming, sleep and dreaming, meditation.

UNIT II

**Sensory processes:** Structure and functions of visual, auditory and tactual senses and introduction to other senses.

**Attentional processes:** Selective and sustained attention, vigilance; Determinants of attention. Theories of attention: Filter theory. Attention theory, Capacity model.

**Cognitive and Perceptual Processes:** Perception, Determinants of perceptual organization, perception of shape, space and colour; cognitive and information processing approach.

UNIT III

**Learning: Classical and operant conditioning:** Basic processes: Generalization, discrimination, extinction, spontaneous recovery, reinforcement schedules; observational learning, transfer of training.

**Memory:** Verbal learning: Material, methods of verbal learning; Encoding, storage and retrieval processes, basic models; Atkinson and Shiffrin, Network model: Sensory, short-term and long-term memory; Constructive memory; Forgetting: Decay, interference, selective forgetting.


UNIT IV

**Thinking and Reasoning:** Information processing model of thinking; Concept formation: Inductive and Deductive reasoning; Creative thinking; Problem Solving: Strategies and Mental set.

**Intelligence:** Theories of Intelligence: Spearman, Thurstone, Guilford; Genetic and environmental influences; Types of intelligence tests.

**Personality:** Trait and type approaches; Biological and Socio-cultural determinants: Psychometric and projective approaches to personality assessment.

Books Recommended


UNIT I

**Introduction to Statistics and Measurement:** Introduction to Statistics: Descriptive and Inferential; Parametric & Non-parametric. Psychological Measurement: Levels of Measurement; nominal, ordinal, interval and ratio; Discrete and Continuous Variables.

**Frequency Distribution:** Drawing up frequency distribution, Graphical representation of data: histogram, bar diagram, frequency polygon, smoothing the frequency polygon.

**Measures of Central Tendency:** Mean and Combined Mean, Median and Mode.

**Measures of Variability:** Range, Quartile deviation, Average deviation, Standard deviation; Concept of Variance.

UNIT II

**Statistics and Psychophysics**
UNIT II
- **Normal Distribution**: Concept of probability, Characteristics of Normal Probability Curve, skewness and kurtosis.
- **Correlation**: The concept of linear correlation. Pearson's product moment correlation (r) Spearman’s rank order correlation (rho).
- **Hypothesis and Making inferences**: Sample and sampling; Standard error of mean; t-test: Independent and correlated samples; Type 1 and Type 2 errors in inference making; Levels of significance; Null Hypothesis, significance of correlation.

UNIT III
- Problems of Psycho-Physics; Physical versus Psychological Continuum; Concept of stimulus limen, Stimulus equality, difference limen, Weber’s Law, Fechner’s Law; Classical Psychophysical Methods: Method of Average error, Method of Limits, Method of Constant Stimuli.

UNIT IV
- Introduction to Modern Psychophysics, Concepts of Signal detection and power law; Psychological scaling methods: Rank order, Paired comparisons, Equal appearing intervals.

Books Recommended

**Paper- III: Psychobiology**

UNIT I: Neural Transmission
- **Psychobiology**: nature and evolution.
- **Nerve cells**: structure, supporting nerve cells.
- **Nerve Impulse Transmission**: Inter and Intra neural transmission, Non Synaptic Chemical Transmission.

UNIT II: Nervous System
- **Central Nervous system**
- **Peripheral Nervous System**: Somatic and Autonomic Nervous System.
- **Endocrin System**: Pituitary, Thyroid, Adrenal Glands and Gonads.

UNIT III: Cortical Functions
- **Techniques for studying brain structure and activity**: CT scan, PET, MRI and EEG.
- **Lateralization of Functions**: Brain Laterality and Inter- Hemispheric Integration.
- **Split Brain studies**: Animal and Human studies.

UNIT IV: Biological basis of Cognitive and Affective processes
- **Bodily Rhythms**: Circadian Rhythms and Biological Clock.
- **Physiological mechanisms of motivation**: Hunger, Sex and aggression.

Books Recommended