

SEMESTER-I

EP-101: COGNITIVE PSYCHOLOGY: UNDERSTANDING

Objectives and learning outcomes:

To understand the origin of cognitive psychology

To explore the knowledge of cognitive psychology

To make students aware with the recent trends in cognitive psychology

To help students in relating subject matter of cognitive psychology to daily life

Unit-1: Introduction to Cognitive Psychology

1.1. Definition, Nature and Scope of Cognitive Psychology

1.2. History of Cognitive Psychology

1.3. Methods to study cognitive Psychology-I

Observation

Introspection

Experimental

1.4. Methods to study cognitive Psychology-II

Quasi-Experimental

Neuropsychological

1.5. Application:

Understanding Cognitive Map

Unit-2: Exploring Cognitive Psychology

2.1. Definition, Nature and Theories:

(i) **Sensation:** Empiricism, Natural Science, Structuralism, Gestalt, Psychophysical approach , Theories of Color Vision, Theories of Pitch

(ii) **Perception:** Bottom Up theories of Perception , Top down perception theories, Computational theories

2.2. Definition, Nature and Theories:

(i) **Attention:** Bottleneck theory, Automatic versus controlled processing, Feature integration theory, Stroop Effect, Signal Detection, Vigilance

(ii) **Pattern Recognition:** Template matching theory, Prototype models, Distinctive-features models and Computational approach

2.3. Definition, Nature and Theories :

(i) Thinking: Associationism, Gestalt, Information Processing

(ii) Problem Solving: Problem Space theory, Means-End Hypothesis, Analogy Approach

2.4. Application:

(i) Activities on Cognitive Map,

(ii) Extra Sensory Perception

Unit-3: Exploring Cognitive Psychology

3.1. Definition, Nature and Theories :

(i) Learning: Hull's Systematic Behaviour Theory, Lewin's Field Theory of Learning, Tolman's Sign Learning, Gagne's Theory of Learning, Bandura's Social Learning Theory, ,

(ii) Memory Model : Unitary, Dual, Multimodal

3.2. Definition, Nature and Theories : (i) Artificial Intelligence, (ii) Language

3.3. Definition, Nature and Theories : (i) Decision Making, (ii) Creativity

3.4. Application : memory Improvement Techniques

Unit-4: Recent Trends in cognitive Psychology

4.1. Recent Trends in : (i) Sensation, (ii) Perception, (iii) Attention- :Biological Bases of Attention,

4.2. Recent Trends in: (iv) Creativity, (v) Thinking, (vi) Problem Solving (समस्या सोडविणे)

4.3. Recent Trends in: (i) Learning, (ii) Memory, (iii) Pattern Recognition (संघात प्रत्याभिज्ञान)

4.4. Recent Trends in: (i) Language, (ii) Artificial Intelligence, (iii) Decision Making

4.5. Application: Develop creative thinking, decision making skills

READINGS:

1. Anderson, J. R. (2015). *Cognitive psychology and its implications*. New York: Worth Publishers
2. Best, J. B. (1999). *Cognitive Psychology*. USA: Wadsworth Publishing Co.
3. Borude, R.R. *Bodhanikmanasashastra*. ChhayaPrakashan.
4. Galloti, K. M. (2004). *Cognitive psychology in and out of the laboratory*. USA: Thomson Wadsworth.
5. Horton, D. L. and Turnage, T. W. (1976). *Human learning*. ND: Prentice-Hall
6. Kellogg, R. T. (2007). *Fundamentals of Cognitive Psychology*. N.D. Sage Publications
7. Matlin, M. (1994). *Cognition*. Bangalore: Harcourt Brace Pub.
8. Singh, Shyam & Singh (2008) *Psychoneuroimmunology*, Global Vision, New Delhi
9. Sternberg, R. J. (2007). *Cognitive Psychology*. Australia: Thomson Wadsworth.
10. Solso, R. L. (2004). *Cognitive Psychology (6th ed.)*. Delhi: Pearson Education.
11. बोरुडे आर.आर) .२००५ (बोधनिक मानसशास्त्र ,छाया प्रकाशन
12. भरत देसाई आणि शोभना अभ्यंकर) २००७ (प्रायोगिक मानसशास्त्र आणि संशोधन पद्धती ,नरेंद्र प्रकाशन ,पुणे

Note : Relevant and recent research articles will be referred in text preparation.

SEMESTER-I

EP-102: PSYCHOMETRICS: THE SCIENCE OF PSYCHOLOGICAL ASSESSMENT

Objectives and learning outcomes:

To create critical understanding of measurement issues and techniques in psychological inquiry.

To enable students to develop skills and competencies in test construction and standardization.

To understand the various biases in psychological testing and assessment.

Unit-1. Perspectives on psychometrics

- 1.1. Scientific method, realism, truth and psychology
- 1.2. Scientific measurement in psychometrics and measurement in the natural sciences
- 1.3. Measurement models: Classical test theory, Latent variable model, Representational measurement model
- 1.4. The theory of true scores, the statistical true score, the platonic true score, Psychological vs. Physical true score, the true psychometric: trait or function
- 1.5. Ethical issues in psychological testing

Unit-2. Process of test construction:

- 2.1. Knowledge-based and person-based questionnaire
 - 2.1.1. Objective and open-ended tests
 - 2.1.2. Norm-referenced and criterion-referenced testing
 - 2.1.3. The correction for guessing in objective knowledge based test
- 2.2. Item analysis
 - 2.2.1. Classical item analysis statistics for knowledge-based tests
 - 2.2.2. Classical item analysis for person-based tests
 - 2.2.3. Item analysis in criterion-referenced testing
- 2.3. Item response theory (IRT)
- 2.4. Relation of IRT and Classical test theory
- 2.5. Item characteristic curve

Unit-3. Standardization of tests

- 3.1. Reliability: Concept and types of reliability, forms of error; Spearman-Brown correction, cautions in the use of reliability coefficient
- 3.2. Validity: Concepts and types of validity; Political validity; Confusion between validation and validity.
- 3.3. Normalisation: Algebraic normalisation, graphical normalisation
- 3.4. Types of norms
- 3.5. The use of Factor Analysis in test construction

Unit- 4. Bias in testing and computer applications

- 4.1. Forms of bias
 - 4.1.1. Item bias: Identifying item bias
 - 4.1.2. Differential item functioning, item offensiveness
- 4.2. Intrinsic test bias: Statistical models of intrinsic test bias
- 4.3. Extrinsic test bias: Extrinsic test bias and ideology; legal aspects of extrinsic test bias; guidelines in case of test bias
- 4.4. Computerization in psychological Testing
- 4.5. Artificial intelligence and psychological testing

READINGS:

- Borsboom, D. (2005). *Measuring the mind: Conceptual issues in contemporary psychometrics*. UK: Cambridge University Press.
- Chadha, N. K. (2009). *Applied psychometry*. New Delhi, India: Sage.
- Kline, P. (1998). *The new psychometrics: Sciences, psychology and measurement*. London & New York: Routledge.
- Michell, J. (1990). *An Introduction to the logic of psychological measurement*. Hillsdale, MI: Erlbaum.
- Rust, J., & Golombok, S. (2009). *Modern psychometrics: The science of psychological assessment*. London and New York: Routledge.

SEMESTER-I

EP-103: RESEARCH METHODOLOGY-I (ISSUES AND ESSENTIAL TECHNIQUES IN STATISTICS AND EXPERIMENTAL DESIGN)

Objectives:

To inform students about the basics of scientific research in applied psychology.

To make them learn the statistical rigours in designing research and processing data.

1. Introduction to research

1.1. Meaning, purpose and dimensions of research.

1.2. Paradigms of research

1.2.1. Qualitative

1.2.2. Quantitative

1.3. Types of research

1.4. The research Process

1.5. Ethical problems and principles.

2. Introduction to statistics

2.1. Nature of data

2.2. Measures of central tendency and variability

2.3. Testing the normality

2.4. Parametric and Non Parametric Statistics

2.5. Correlation and Regression

3. Research Problem, Sampling and hypothesis testing

3.1. Research problem, definition and selection

3.2. Sampling procedures of hypothesis testing

3.3. Sampling design: definition and characteristics

3.4. Types of sample designs

3.5. Appropriate selection of Statistical techniques

4. Experimental Design and Analysis of Variance

4.1. Definition of experimental design

4.2. Types of experimental design

4.3. Selection of statistical methods

3.2.1. Randomized experimental and quasi-experimental approaches

3.2.2. Group vs. single-subject designs

4.4. t test

4.5. ANOVA

Quantitative analysis for examination purpose: NPC, Correlation, regression, Students t- test and one way ANOVA , Sample selection.

READINGS:

Aron, Arthur; Aron, Elaine N.; Coups, Elliot J. (2006). *Statistics for Psychology* (4th Edn.). Dorling Kindersley (India) Pvt. Ltd. With Pearson Education Limited.

Bridget, S., & Cathy, L. (Eds.) (2008). *Research methods in the social sciences*. New Delhi, India: Vistaar Publication.

Broota, K. D. (1989, reprint 2014). *Experimental design in Behavioural Research*. New Age International Pvt. Ltd., New Delhi.

Chadha, N. K. (2009). *Applied psychometry*. New Delhi, India: Sage.

Garrett, Henry E. (2006). *Statistics in Psychology and Education* (1st Indian reprint). Surjeet Publications, Delhi-7.

Gliner, J. A., & Morgan, G. A. (2000). *Research methods in applied settings: An integrated approach to design and analysis*. Mahwah, NJ: Lawrence Erlbaum.

Howell, D. C. (2002). *Statistical methods for psychology* (5th ed.). Duxbury, California: Thomson Learning.

Kerlinger, Fred N. (2009). *Foundation of behavioral research* (9th reprint). Holt, Rinehart and Winston, Inc. USA. (Surjeet Publications, New Delhi).

- Kothari, C. R. (2011). *Research Methodology: Methods and Techniques* (2nd revised edition). New Age International Publishers, New Delhi
- Mangal, S. K. (2009). *Statistics in Psychology and Education* (2nd Edition- 10th printing). PHI learning Pvt. Ltd., New Delhi.
- McBurney, Donald H.; White, Theresa L. (2007). *Research Methods* (7th Edition). Thomson.
- Pallant Julie (2010). *SPSS Survival Manual: A step by step guide to data analysis using SPSS* (4th Ed.). McGraw-Hill.
- Ranjit Kumar (2015). *Research Methodology: A Step by step guide for beginners*. Pearson.
- Singh, A. K. (2006). *Tests, Measurements and Research Methods in Behavioural Sciences* (5th Edition). Bharati Bhawan: Publishers and Distributors.
- Tabachnick, Barbara G.; Fidell, Linda S. (2007). *Using Multivariate Statistics* (5th Edn.). Pearson.
- Tredoux Colin and Durrheim Kevin (2002). *Numbers, Hypotheses & Conclusions: A Course in Statistics for the Social Sciences*. UCT Press, Lansdowne.SA.
- Zechmeister, Jeanne S.; Zechmeister, Eugene B.; Shaughnessy, John J. (2009). *Essentials of Research Methods in Psychology*. Tata McGraw-Hill.

SEMESTER-I

EP-104: PSYCHOLOGY PRACTICAL: TESTING

Objectives: To acquaint the students with:

1. The administration of the standardized psychological tests, rapport establishment, interpretation of scores and report writing.
2. The criteria's of evaluating psychological tests
3. Certain counseling skills on the basis of psychological results

UNIT-1: GENERAL AND SPECIAL ABILITY TESTS (any three)

1. Standard Progressive Matrices, Cattell's Culture Fair Test of Intelligence
2. WAIS-IV (India), GATB, GMAT
3. DAT, DBDA, EATB
4. Torrence test of Creativity / Salahkar Creativity Test / Passi Creativity test
5. Reasoning Ability Test, Cognitive Ability Test

UNIT-2: PERSONALITY TESTS (any three)

1. NEO-PI-R, 16 PF, MBTI (Form F)
2. Vocational Preference Inventory by J. I Holland
3. Bell's Adjustment Inventory
4. Thematic Apperception Test (TAT)
5. Attitude and Value Scale

UNIT-III: CLINICAL TESTS (Any two)

1. MMPI /
2. Neuropsychological Assessment Battery (NAB)
3. Adult Neuropsychological Questionnaire
4. State-Trait Anger Expression Inventory-2 (STAXI-2)
5. Depression Scale

UNIT-IV: OTHER TESTS (ANY TWO)

1. FIRO-B/ BIRO-P
2. Assessment of Subjective Wellbeing
3. Career and Family Value Scale
4. Family Environment Scale
5. Self-Concept

READINGS:

1. Anastasi, A. & Urbina, S. (1997). Psychological testing. N.D.: Pearson Education.
2. Kaplan, R.M. & Saccuzzo, D.P. (2007). Psychological Testing: Principles, Applications, and Issues. Australia: Thomson Wadsworth.
3. Gregory, R.J. (2005). Psychological testing: History, principles and applications. New Delhi: Pearson Education.
4. Singh, A.K. (2006). Tests, Measurements and Research Methods in Behavioural Sciences. Patna: Bharati Bhavan.
5. Freeman, F.S. 3rd ed. (1965). Psychological testing. New Delhi: Oxford & IBH Publishing Co. Pvt. Ltd.
6. Cronbach L. J. (1984). Essentials of Psychological Testing (4th Ed)
7. Anastasi A. (1988). Psychological Testing. New York: McMillan
8. Murphy, K. R., Davidshofer, R. K. (1988): Psychological testing: Principles and applications. New Jersey: Prentice Hall Inc.
9. Nunnally, J.C. and Bernstein, I.H. (1994). Psychometric theory (3rd ed). NY: McGraw-Hill.
10. Aiken L.R. (1996) Rating Scales and Checklists: Evaluating Behavior, Personality and Attitudes.
11. Buros, O. (ed). (1965, 1972). The mental measurement. Year Book, NJ: Gryphon Press.
12. Ghiselli, E. E., Campbell, J. P. & Zedek, S. (1981). Measurement theory for the behavioural sciences. W.H. Freeman.
13. Chadha, N. K. (1996). Theory and practice of psychometry. N. D.: New Age International Ltd.
14. Stanley, J.C. and Hopkins, K.D. (1978). Educational and psychological measurement and evaluation. ND: Prentice-Hall of India.
15. Guilford, J.P. (1975). Psychometric methods. ND: Tata McGraw-Hill. 16. Test manuals of respective tests.