

DEPARTMENT OF PSYCHOLOGY

M.A. Psychology

Structure-I (2- Year PG Program)

DISCIPLINE SPECIFIC CORE COURSE

SEMESTER II

DSC 202: ADVANCED PSYCHOMETRICS

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITE OF THE COURSE

Course Title & Code	Total Credits	Credit distribution of the course			Eligibility Criteria/ Prerequisite
		Lecture	Tutorial	Practical	
DSC 202 Advanced Psychometrics	4	3	0	1	Graduation in any stream

Marks:100

Hours: 60

Credit: 4 (Lectures + Internal Assessment + Practical)

Course Objectives:

1. To create critical understanding of measurement and techniques in psychological inquiry.
2. To enable students to develop skills and competencies in test construction and standardization.
3. To learn the application and contextual interpretation of data from psychological measurement.
4. To equip students with recent trends and the use of Artificial intelligence in psychological testing.

Learning Outcomes:

Students will be able to:

1. Gain a comprehensive understanding of measurement principles in psychological research.
2. Develop skills in designing, standardizing, and validating psychological assessments.
3. Interpret and apply measurement data using statistical and methodological approaches.
4. Explore emerging trends, including AI in psychological testing.
5. Assess errors, biases, and ethical concerns in psychological assessment.

Course Contents:

Unit 1: Introduction to Psychological testing: History; Nature of Psychological Measurement; Types of tests, Errors in Psychological measurement; Scientific measurement in psychometrics and measurement in the natural sciences, Sources of biases in psychological testing.
(10 Hours)

Unit 2: Test/Scale construction--- Steps followed in scale/test construction; Identification of construct; Item writing and response format selection; Content Validity; Pilot and administration; Item analysis (Descriptive analysis, Item Discrimination, Item Difficulty); Extraction of factors;

Psychometric Evaluation (Reliability: Reliability of test scores and raters, Validity: Construct validity and Criterion Validity); Classical Test theory and Item Response theory. (10 Hours)

Unit 3: Application of psychological Tests --- Clinical; Organisational; School and educational; developmental settings; defence and military; Employment and Vocational training. (10 Hours)

Unit 4: Recent Trends and Ethical Issues—Computerised Adaptive Testing; Artificial Intelligence in Psychometrics; Digital Footprints in Psychometrics; National and International Ethical Guidelines; Issues in Cultural Adaptation; Developing Culture-fair Tests. (10 Hours)

Practicum: At least 2 (Two) practicals based on the above units (20 Hours)

Essential Readings

1. Borsboom, D. (2005). *Measuring the mind: Conceptual issues in contemporary psychometrics*. UK: Cambridge University Press.
2. DeVellis, R. F. (2017). *Scale Development: Theory and Applications* (4th Ed.). SAGE.
3. Furr, R. M. (2022). *Psychometrics: An introduction*. SAGE.
4. Gregory, R. J. (2011). *Psychological Testing: History, Principles, and Applications* (6th Ed.). Boston: Allyn& Bacon.
5. Jackson, C. (2003). *Understanding Psychological Testing*. Mumbai: Jaico Pub. House
6. Kalina, P. (1998). *The new psychometrics: Sciences, psychology and measurement*. London & New York: Routledge.
7. Kline, T. J. B. (2005). *Psychological Testing*. New Delhi: Vistaar Publication.
8. Reynolds, C. R., Altmann, R. A., & Allen, D. N. (2021). *Mastering Modern Psychological Testing: Theory and methods*. Springer International Publishing Springer.
9. Rust, J., Kosinski, M., & Stillwell, D. (2021). *Modern Psychometrics: The Science of Psychological Assessment*. Routledge.