



C. U. SHAH UNIVERSITY
Wadhwan City

Department Of Education (M.Ed.)

Semester: - IV

Code: - MED04INS2

Name: Inferential Statistics

Teaching & Evaluation Scheme:-

Subject Code	Name of the Subject	Teaching Scheme (Hours)				Credits	Evaluation Scheme							
		Th	Tu	Pr	Total		Theory				Practical (Marks)			Total
							Sessional Exam		University Exam		Internal		University	
							Marks	Hrs	Marks	Hrs	Pr/Viva	TW	Pr	
MED04INS2	Inferential Statistics	4	0	0	4	4	30	1.5	70	3	---	-----	-----	100

Objectives:

To enable students understand

1. The scope and application of educational statistics.
2. Himself with statistical theories and its application in Educational Research.
3. The role of parametric and non-parametric statistics in various types of educational research.
4. The importance of educational statistics and its relationship with of educational research.

Inferential Statistics

Unit. No.	Name of topic	Weight age
1	ANOVA and ANCOVA	25%
	1.1 Analysis of variance (One-way, Two-way) 1.2 Analysis of Co-variance 1.3 Factorial Design (No Computation) 1.4 Uses (ANOVA and ANCOVA)	
2	Special Methods of Correlation	25%
	2.1 Bi-serial correlation, Point Bi serial Correlation and their standards 2.2 Point bi-serial correlation, Partial and Multiple Correlation 2.3 Tetrachoric, Phi-Correlation and their significance 2.4 Contingency coefficient C, standard ERROR and their significance	
3	Non parametric methods	25%
	3.1 Meaning and scope of non-parametric Methods 3.2 Sign Test, Median test, Candal's T-test, Candal's W-test, Mann-whitney 3.3 U-test, Wilcoxon Test, KruskalWalis Test (Computation and Interpretation for each Method) 3.4 Use of parametric and non-parametric methods	
4	: Reliability, Validity, Scaling and Factor Analysis	25%
	4.1 Reliability : Meaning, Methods, Calculations of split half, length of test and reliability methods of rational equivalent standard errors of Measurement of reliability, effectiveness of reliability on small and large group 4.2 Validity : Meaning, Methods, Calculations, length of test of validity, effects of validity on reliability 4.3 Scaling of testT scaling, Stanine scores and Scaling of Judgments and their types-Item analysis : Difficulty index, Discrimination index,Item objective congruence (IOC) in CRT 4.4 Factor Analysis-Meaning, Scope, Use of Factor Analysis, Basic equationsTypes and Identification of factors	

Suggested Practical Work:

1. Selection and description of appropriate statistical technique(s) for answering a

2. research question or for testing a given hypothesis Analysis of data using Statistical Packages
3. Conduct a test any one class in different time period and find out test reliability on that score.
4. Prepared a cognitive note on the topic Factor Analysis

Reference :

1. Blommers, Paul and Lindquist (1965): Elements Statistical Methods University of London press ltd.
2. Dowine N.M., R.W. Heath (1965): Basic Statistical Methods New York: Harper & Row.
3. Edwards, A.L. (1963): Statistical Methods of Behavioral Science New York: Hall, Rinehart and Winston.
4. Ferguson, G.A.: Statistical Analysis in Psychology and Education New York: McGraw Hill & Co. Inc.
5. Fruther B.: Introduction to Factor Analysis New Delhi: Affiliated east-west-press Pvt. Ltd.
6. Garrett, H.E. (1961): Statistics in Psychology and Education Bombay: Allied Pacific Pvt. Ltd.
7. Guilford J.P. (1965): Fundamental Statistics in Psychology and Education New York: McGraw Hill Co. Inc.
8. Lindquist, E.F. (1968): Statistical Analysis in Educational Research Oxford and IBH Publication Co.
9. Patel, R. S. (2010): Statistical Methods for Educational Research Ahmedabad: Jay Publication
10. Patel, R.S.: (2012) Statistical Techniques for Data Analysis (International Version), LAP LAMBERT Academic Publishing GmbH & Co. Saarbrücken, Germany.
11. Siegel Sidney and N.J. Castellan (1988): Non Parametric Statistics New York: McGraw Hill Book Company.
12. Patel, R. S. (2010): Fundamental Concepts of Educational Research (Handbook), Ahmedabad: Jay Publication
13. 1+J[NL, DG]EF. VG[ALP I]P 5FZ[B o IX1F6DF\ VF\S0FXF:+ VDNFJFN o II] GJL;8" L U\Y| IGDF6" AM0P"