



C. U. SHAH UNIVERSITY
Wadhwan City

FACULTY OF:- Computer Science

DEPARTMENT OF:- Master of Computer Applications

SEMESTER:- II

CODE:- 5CS02MSM1

NAME:- STATISTICAL METHODS (SM)

Teaching and 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	
5CS02MSM1	STATISTICAL METHODS (SM)	4	-	-	4	4	30	1.5	70	3	-	-	-	100

Objectives:

- To develop the skills for data interpretation and representation in excellent fashion.
- To understand the Measure of Central Tendency, Probabilities, Regression, and Correlation methods and its real life applications.
- To understand time series analysis and its application to forecasting

Prerequisites: None

Course Outline:

Sr. No.	Course Contents	Number of Hours
1	Statistics What and Why Introduction to Statistics; Origin and growth of Statistics Function of Statistics, Scope of Statistics Limitations of Statistics, Statistics Methods vs. Experimental Methods	10
2	Measures of Central Tendency Average defined, Objective of Average, Requisites of Good Average Types of Average Arithmetic Mean: Calculation of Simple Arithmetic Mean, Calculation of Weighted Arithmetic Mean Median Mode Geometric Mean Harmonic Mean General Limitations of an Average	10



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3	<p>Measure of Dispersion</p> <p>Introduction Dispersion Defined Range: Definition, merits and demerits. Semi-interquartile range (Quartile deviation). Mean deviation: Definition, merits and demerits, minimalists property (without proof). Mean square deviation: Definition, minimalists property of mean square deviation (with proof), Variance and standard deviation: Definition, merits and demerits, effect of change of origin and scale, combined variance (derivation for 2 groups), combined standard deviation, generalization for n groups.</p> <p>Measures of dispersion for comparison: coefficient of range, coefficient of quartile Deviation and coefficient of mean deviation, coefficient of variation (C.V.)</p>	10
4	<p>Correlation Analysis</p> <p>Introduction Significance of the study of Correlation, Correlation and Causation Types of Correlation: Positive and Negative Correlation, Simple, Partial and Multiple Correlations, Linear and Non-Linear Correlation,,Methods of Studying Correlation Scatter Diagram Method Graphics Method: Direct Method of Finding out Correlation: Coefficient of Correlation and Probable Error, Conditions for Use of Probable Error, Coefficient Determination</p>	9
5	<p>Regression Analysis</p> <p>Uses of Regression Analysis, Difference between Correlation and Regression Analysis Regression Lines,Regression,Equations, Regression Equation on Y on X,Regression Equation on X on X,Deviation taken from Arithmetic Means of X and Y,Deviation taken from Assumed Means,Graphing Regression Lines,Standard Error of Estimate,Limitations of Regression Analysis</p>	9
Total hours		48

Learning Outcomes:

- Ability to apply statistical techniques in decision making in solving real-world problems
- Ability to use computers to analyze the data

Books Recommended:

1. Statistics for Business and Economics, **Anderson, Sweeney & Williams**, 11th Edition, Publisher-Cengage Learning



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2. Statistics Concepts and Applications, **Nabendu Pal & Sahadeb Sarkar**, Publisher-PHI.
Statistical Methods, **S P Gupta, S Chand**.