FACULTY OF COMPUTER SCIENCE

Master of Computer Application (Integrated) (Sem-II)

In Effect from Academic Year 2023-24

Branch Name:	IMCA
Program Code:	CS301
Course Name:	Statistical Methods
Course Code:	1CS3010205T
Pre-requisite Course:	Basic of Computation

Course Objective:

1. To understand of Basic of Statistics.
2. To enhance basic knowledge of statistical concepts to like measurements of location and dispersion, probability, probability distributions, sampling, estimation, hypothesis testing, regression, and correlation analysis, multiple regression and business/economic forecasting.
3. To enhance the student's ability to think logically and mathematically.
4. To improve students ability in calculation.
5. This course intended to learn the theory of optimization methods and algorithms developed for solving various types of optimization problems

Teaching and Examination Scheme:

Teaching Scheme (Hours per week)				Evaluation Scheme (Marks)				
				Theory		Practical		
Lecture	Tutorial	Practical	Credit	University Assessment	Continuous Assessment	University Assessment	Continuous Assessment	Total
3	1	-	4	60	40	-	-	100

Course Contents:

Unit No	Topics	Total Hours	Weightage (%)
1	**FREQUENCY DISTRIBUTION** Class interval, Types of Classes, Class frequency, Class mark, Class Boundaries, Width of a class, Relative frequency, Percentage frequency, Cumulative frequency. **MEASURES OF CENTRAL TENDENCY** Introduction, Arithmetic Mean for raw data, Discrete frequency distribution, Continuous frequency distribution, Properties of A.M., Merits & Demerits of A.M.- Median for raw data, Discrete frequency distribution, Continuous frequency distribution , Merits and demerits of Median, Mode for raw data , Discrete frequency distribution, Continuous frequency distribution , Merits & demerits of mode	15	25
2	**MEASURES OF DISPERSION** Introduction, Range, coefficient of range, Quartiles, Quartiles deviations, coefficient of quartile deviations, Mean deviation and coefficient of mean deviation, S.D and variance for all types of frequency distribution, Coefficient of variation	12	25
3	**CORRELATION** Definition of Correlation, Types of Correlation, Scatter Diagram Method, Karl Person's , Correlation Coefficients, Rank Correlation Coefficients, Correlation Coefficients for Bi-variant frequency distribution, Probable error for Correlation Coefficients	10	25
4	**REGRESSION** Definition of Regression, Regression lines, Regression Coefficients, Properties of regression Coefficients, Fitting of regression lines and estimation for Bi-variant frequency distribution	10	25

Text Books:

1. Statistical Methods, S.P. Gupta, Published by New India Publishing Agency

References Books:

1. Business Statistics, R.S. Bhardwarj, Publishing Made Easy · Alexa
2. Fundamental of Statistics, S.C. Gupta, Publisher: Himalaya Publishing

Course Learning Outcomes (CLO): On completion of this course, the students will be able to:

CLO	Description	Bloom's Taxonomy Level
CLO1	To **Analyze** the statistical data.	2 Understanding
CLO2	To Calculate and **apply** measures of location and measures of dispersion grouped and ungrouped data cases.	1 Remembering 2 Understanding 3 Applying
CLO3	To **Understand** and **Apply** discrete and continuous probability distributions to various business problems	2 Understanding 3 Applying 1 Remembering
CLO4	To Learn different techniques to solve Non- Linear Programming Problems.	3 Applying
CLO5	To **Handle, solve and analyze** problems using linear programming and other mathematical programming algorithms.	1 Remembering 2 Understanding
CLO6	To **Solve** relevant given problems using counting techniques.	3 Applying

Mapping of CLOs with Pos & PSOs

Course Learning Outcomes	Program Out comes (POs)												Program Specific outcomes (PSOs)	
	PO1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO1	PSO2
CLO1	L			M				L	M		M		H	
CLO2	M	L		M		L		L		M	L	L	M	
CLO3		L	M		H			L	M	M		L		L
CLO4	L		L	L	M		L		L		L		M	M
CLO5	M	L			L		H			L		L	M	L
CLO6		M	L			M	L			M	M		L	

H:High, M:Medium, L:Low