



Course Name: Applications of spreadsheets in Business

(UG/PG): UG

Number of Credits: 4

Level: 3

Learning Objective(s): To enable a student to present data in graphical and tabular form
To enable a student to summarize data sets using different statistical measures for decision-making.

To enable a student to analyze data using Probability and Probability distributions concepts and tools

To enable a student to use Spread sheet for statistical applications

Pedagogy:

Lecture

Case Study

Mini Project

Assignments

Pre-learning: Knowledge of Bar Charts, Pie charts

Course Outline:

Sr.No.	Topic	Hours
1	Introduction to spreadsheets, Use of spreadsheets for representation of data, Population and sample, Descriptive and Inductive statistics, Discrete and continuous variables, frequency distribution of discrete and continuous variables, relative frequency, cumulative frequency, Histogram, frequency polygon, frequency curve, Ogives, Numerical	4
2	Measures of Central Tendency, Index, subscript notations, summation notation, Averages - arithmetic mean, weighted arithmetic mean, median, mode. Empirical relationship between mean, median and mode and their properties, Geometric mean, harmonic mean, quartiles, percentiles, Numericals	7
3	Measures of Dispersions, skew ness and kurtosis Absolute and relative measures of dispersion - Range, semi inter quartile range, variance, standard deviation, coefficient of variation, measures of skew ness and kurtosis, Numericals	7

4	Correlation and regression Bivariate data correlation between two variables, scattered diagram, conclusion about type of correlation from scatter diagram, covariance, Karl Pearson's coefficient of correlation, Spearman's rank correlation coefficient, Regression – Lines of regression, fitting of lines of regression by least square method, angle between the two regression lines, Algorithms for correlation & regression, Data analysis using spreadsheet	7
5	Sampling:-Types of sampling, Errors in statistics	2
6	Index Numbers: Concept of index numbers, uses of index numbers, all types of index numbers, Laspeyre's, Paasche's & Fisher's Index Numbers, Numericals	2
7	Histogram, frequency polygon, frequency curve, Ogives.AM, median & Mode, Measures of Dispersions, skew ness and kurtosis, Correlation and regression, Sampling using spread sheet	1
8	Probability Sample space, events, types of events, classical definition of probability, axioms of probability Random variable, probability distribution of random variable, conditional probability, Bayes Theorem, Numericals	11
9	Binomial distribution, Numericals	2
10	Poisson distribution, Numericals	2
11	Geometric distribution, Numericals	1
12	Normal distribution, Numericals	6
13	Exponential distribution, Numerical	2
14	Testing of Hypothesis- Large sample tests (z-test for single & two populations, Numericals	3
15	Analysis of Variance with Completely Randomized Design (One way ANOVA), Data analysis using spreadsheet	2
16	Probability, Binomial, Poisson, Exponential distribution, z-test, ANOVA using spread sheet	1
	Total	60

Books Recommended:

SrNo	Title of Book	Authors	Publication
1	Statistical Techniques in Business and Economics	Lind, Marchal, Wathen	Tata McGraw-Hill Companies
2	Statistical for Business and Economics	Anderson, Sweeny, Williams	South-Western CENGAGE Learning
3	Business Statistics : Problems and Solutions	J.K. Sharma	Pearson

4 Statistical Methods (Part 1 & 2)

P.G. Dixit, Prayag & Nirali Publication
Kapre

5 Head First Statistics


GRIFFITHS, DAWN SPD

Suggested Evaluation Methods:

Written exam
Online exam/Quiz
Mini Project
Presentation
Assignments
Lab based Practical Exams

Parallel/Similar courses the existing curriculum:

S.No.	Name of the course	Institute where it was offered
1	Tools for Computational Statistics	Ryerson University, Toronto, Canada

Name of Member	Mrs. Shilpa Mujumdar			
Designation	Asst. Professor			
Org. / Inst.	SICSR			
Signature				

Name of the Expert:



Signature:

Date: