Progressive Education Society's

Modern College of Arts, Science and Commerce,

Shivajinagar, Pune - 5

First Year of B.Com.

(2023 Course under NEP 2020)

Course Code: 23CoBstU1102 **Course Name: Business Analytics -I**

Teaching Scheme: 2 Hours/Week **Credit: 2**

Examination Scheme: CIA : 20 Marks **End-Sem : 30 Marks**

Prerequisite Courses:

- Basic concepts of mathematics.

Course Objectives:

- To learn to represent the data with the help of diagrams and graphs.
- To learn to interpret the data using diagrams and graphs.
- To study concept of measures of central tendency.
- To study concept of measures of dispersion.

Course Outcomes:

On completion of the course, student will be able to

- represent and interpret the data with different graphs and diagrams.
- compute and interpret measures of central tendency and measures of dispersion.

Course Contents

Unit 1	Classification and frequency distribution	9 lectures
	• Definition of Statistics and its importance in banking, finance, Government sector etc. • Scope of statistics (economics, management Science, and industry). • Concept of population and sample. • Qualitative and Quantitative variables. • Raw data and its classification. • Frequency distribution, Cumulative frequency distribution and Relative Frequency distribution. • Graphical and diagrammatic representation of data : Histogram (for uniform class interval), Frequency curve and cumulative frequency curve (Ogive curves) Pie diagram, bar diagram, subdivided bar diagram, multiple bar diagram • Interpretation of data using diagrams and graphs.	

Unit 2	Measures of Central Tendency	12 lectures
	• Introduction of measures of central tendency. • Arithmetic mean (A. M) or Mean. • Mean of combined group • Median for ungrouped data and grouped data. • Mode for ungrouped data and grouped data. • Median and mode using graphs. • Merits and Demerits of Mean, Median and Mode. • Empirical Relation between Mean, Median and Mode.	
Unit 3	Measures of Dispersion	9 lectures
	• Meaning of Dispersion • Measures of Dispersion (range , variance and standard deviation for grouped and ungrouped data) • Standard deviation for combined group. • Measures of relative dispersion (Coefficient of range, Coefficient of variation)	

Reference Books:

1) Richard Levin and David Rubin (1991), Statistics for Management, Fifth Edition, Prentice Hall.

2) Amir D. Aczel and Jayavel Sounderpandian (2002), Complete Business Statistics, Tata McGraw-Hill Publishing Company.

3) S.P. Gupta (2021), Statistical Methods, Sultan chand and Sons publication.

4) G.V.Shenoy, U.K. Srivastava and S.C.Sharma(2001), Business Statistics, Wiley Eastern Limited.

5) A V Rayarikar and P G Dixit : Business Mathematics and Statistics : Nirali Publishers ,Pune

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(2023 Course under NEP 2020)

Course Code: 23CoBstU1501
Course Name: Lab course on Business Analytics –I
Teaching Scheme: 4 Hours/Week **Credit: 2**

Examination Scheme: CIA: 20 Marks **End-Sem : 30 Marks**

Prerequisite Courses: Knowledge of the topics in Business analytics I .
Course Objectives:

- To learn to represent the data with the help of diagrams and graphs.
- To learn to interpret the data using diagrams and graphs.
- To study concept of measures of central tendency.
- To study concept of measures of dispersion.

Course Outcomes:

On completion of the course, student will be able to–

- use various graphical and diagrammatic techniques and interpret.
- compute various measures of central tendency, dispersion.
- interpret summary statistics of output generated by Computer Software.
- summarize and analyze the data using Computer Software.

Course Contents

Sr.No.	Title of Experiment/ Practical
1	Construction of frequency distribution using raw data ,secondary data.
2	Tabulation and Data interpretations.
3	Diagrammatic representation of Business data (problem based on simple ,subdivided bar diagram,).
4	Diagrammatic representation of Business data (problem based on multiple bar diagram, pie diagram.
5	Graphical representation of business data. Frequency polygon, Frequency curve and cumulative frequency curve (Ogive curves) and Histogram.
6	Computation of measures of central tendency (ungrouped data). Use of an appropriate measure and interpretation of results.
7	Computation of measures of central tendency (grouped data). Use of an appropriate measure and interpretation of results.
8	Computation of measures of dispersion (ungrouped data). Use of an appropriate measure and interpretation of results.
9	Computation of measures of dispersion (grouped data). Use of an appropriate measure and interpretation of results
10	Introduction to MS-Excel.
11	Diagrammatic representation of Business data using MS-Excel
12	Graphical representation of business data. Histogram (for uniform class interval), Frequency curve and cumulative frequency curve (Ogive curves) using MS-Excel
13	Computation of measures of central tendency using MS-Excel
14	Computation of measures of dispersion and interpretation using MS-Excel
15	Computation of summary statistics using MS Excel

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(2023 Course under NEP 2020)

Course Code: 23CoBstU2102 **Course Name : Business Analytics –II**

Teaching Scheme: 2 Hours/Week **Credit: 2**

Examination Scheme: CIA: 20 Marks **End-Sem : 30 Marks**

Prerequisite Courses: Knowledge of the topics in Business analytics I .

Course Objectives:

- To understand the concept of Correlation and regression.
- To understand the concept of index number.

Course Outcomes:

On completion of the course, student will be able to–

- understand applications of statistics in different fields.

Course Contents

Unit 1	Correlation	9 lectures
	• Bivariate data and scatter diagram • Types of correlation • Karl pearsons coefficient of correlation (Ungrouped data only) • Spearman Rank Correlation coefficient for rank data (without tie).	
Unit 2	Regression	8 lectures
	• Regression (Y response X: regressor), Regression model: $Y= a + bx + \varepsilon$ • Equation of line of regression of Y on X • Applications of Correlation and Regression.	
Unit 3	Index Number	13 lectures
	• Concept of Index number • Types of Index number (Price and quantity Index number) • Construction of Price index number • Laspeyre's, paasche's and Fisher Index number. • Cost of living / Consumer Price index number, SENSEX and NIFTY • Family budget and aggregate expenditure method • Application and limitations of Index number.	

Reference Books :

1) Amir D. Aczel and Jayavel Sounderpandian (2002), Complete Business Statistics, Tata McGraw-Hill Publishing Company.

2) G.V.Shenoy, U.K. Srivastava and S.C.Sharma(2001), Business Statistics, Wiley Eastern Limited.

3) Richard Levin and David Rubin (1991), Statistics for Management, Fifth Edition, Prentice Hall.

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(2023 Course under NEP 2020)

Course Code: 23CoBstU2501

Course Name: Lab course on Business Analytics –II

Teaching Scheme: 4 Hours/Week **Credit: 2**

Examination Scheme: CIA: 20 Marks **End-Sem : 30 Marks**

Prerequisite Courses: Knowledge of the topics in Business analytics II.

Course Objectives: At the end of this course students are expected to be able

- To draw Scatter diagram and interpret.
- To compute and interpret correlation coefficient (ungrouped data).
- To study rank correlation coefficient.
- To study and interpret various index numbers.
- To summarize and analyze the data using Computer Software.

Course Outcomes:

On completion of the course, student will be able to–

- Understand the applications of statistics in different fields.
- analyze the data using computer software.

Course Contents

Sr.No.	Title of Experiment/ Practical
1	Diagrammatic representation of correlation coefficient for ungrouped data (Scatter Diagram) and interpretation of data.
2	Computation of Karl Pearsons coefficient of correlation for bivariate data.
3	Fitting of line of regression for bivariate data and forecast the value of variable.
4	Computation of Rank correlation for rank data.
5	Aggregated Price index number.
6	Laspeyre's index number.
7	Paasche's index number.
8	Fisher Index number.
9	Cost of living/Consumer Price index number.
10	Family budget and aggregate expenditure method.
11	Diagrammatic representation of correlation coefficient for ungrouped data (Scatter Diagram) and interpretation of data using MS Excel
12	Computation of Karl Pearson's coefficient of correlation for bivariate data using MS Excel.
13	Fitting of line of regression for bivariate data and forecast the value of variable using MS Excel.
14& 15	Experiential Learning