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| **BBA 203: Quantitative Decision Making** |
| **Teaching Scheme** | **Examination Scheme** |
| Lectures: 3 hrs/Week | Class Test -12Marks |
| Tutorials: 1 hr/Week | Teachers Assessment - 6MarksAttendance – 12 Marks |
|  Credits: 4 | End Semester Exam – 70 marks |

# Course Objectives:

# The basic objective of this course is to provide students an understanding of concepts of business statistics and to acquaint the students with necessary statistical and techniques to be used in business decision-making processes.

# Course Outcomes:

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| CO1 | Acquiring the knowledge about the applications of Statistics in Business and Management |
| CO2 | To explain basic methods of business statisticswhich are immensely useful for economical problems. |
| CO3 | To solve problems in the areas of measures of central tendency, variation, significance of measuring variation. |
| CO4 | To discern effects of various types and methods of correlation and regression |
| CO5 | To connect acquired knowledge and skills with real life problems in economic practice |
| CO6 | Understanding the basic idea of the time series analysis and index numbers in business. |

**Course Content -**

**Unit-1**

Definitions of Statistics. Scope in Business and Management, Limitations of Statistics. Classification of data (Geographical, Chronological, Qualitative, Quantitative), Formation ofFrequency distributions (discrete and continuous data), Diagrams (Bar, rectangles, squares,circles, pie, Pictograms and cartograms), Graphs (Histogram, Frequency polygon, Smoothed frequency curve, Cumulative Frequency curves or Ogives).

**Unit-2**

Measures of Central Tendency- Characteristics of a Good Average, Arithmetic mean, merits andlimitations of arithmetic mean, Weighted arithmetic mean, Median, merits and limitations ofmedian, Quartiles, Deciles and Percentiles, Mode, merits and limitations of mode, Geometric mean and its applications. , Harmonic mean, its applications, merits and limitations.

**Unit-3**

Measures of Variation – Significance of measuring variation, properties of a good measure of variation. Absolute and Relative measures of variation. Range, Quartile deviation, The AverageDeviation, The Standard Deviation, Coefficient of Variation. Moments, Measures of Skewnessand Kurtosis.

**Unit-4**

Correlation and Regression- Scatter Diagram, Karl Pearson’s Coefficient of Correlation and itsproperties, Correlation of bi-variate grouped data. Rank Correlation Coefficient. Method of leastsquares, Regression lines, Regression Equations, Regression Coefficients and its properties.

**Unit-5**

Time series - Components of Time series , measurements of secular trend ( Freehand, semi averages, moving averages, least squares).

**Unit-6**

Index Numbers: Uses, Price and quantity Index numbers, Simple Index numbers, Simple

average of price relatives, weighted relative price index numbers, Laspeyres and Paasche ,

Bowley’s, Marshall-Edgeworth’s and Fisher’s index numbers). Time reversal , Factor reversal

and Circular tests. Chain index numbers.

**Text and Reference Books-**

1. Business Statistics, Gupta, S.P. &Gupta, M.P., Sultan Chand & Sons, Delhi, 10th edition.
2. Introduction to Statistical Methods, Gupta, C.B & Gupta Vijay: 23rd RevisedEdition,Vikas Publishing House Pvt. Limited, 10th edition.
3. Business Statistics, Beri, G.C., Tata McGraw Hill Education Private Limited, NewDelhi, 3rd Edition.