Programme: Bachelor of Commerce (Semester IV)

Code of Course: Subject	Title of Course: Subject	Total No. of Periods
B.C.- 44	**Business Mathematics & Statistics**	75

Course Outcomes: After going through the subject Business Mathematics & Statistics, the students will be able to:
1. Apply the concepts of Highest Common Factor (HCF) and Lowest Common Multiple (LCM) to find the HCF and LCM of two or more integers.
2. Solve linear equations involving one variable and two variables using appropriate methods such as substitution, elimination and graphical representation.
3. Understand the concept of ratio and proportion and apply them to solve problems involving direct and indirect proportions and in various real-life scenarios.
4. Understand the concept of simple interest and compound interest. Calculate simple interest and compound interest using appropriate formulas and methods.
5. Comprehend the concept of percentage and its applications.
6. Differentiate between primary and secondary data and select appropriate data collection methods for different research situations, organize and construct frequency distributions to summarize and represent data effectively.
7. Calculate and interpret measures of central tendency, Dispersion and its coefficient.
8. Define index numbers and understand their meaning, characteristics, importance, and various applications in economics and business. Interpret and analyze index numbers to measure changes in variables over time.
9. Understand the construction and application of aggregative index numbers and Fisher's Ideal Index Number formula to measure changes in a group of related variables and analyze their significance.
10. Understand the basics of correlation and its statistical analysis. Learn to calculate and interpret the coefficient of correlation using Karl Pearson's formula for both grouped and ungrouped data. Understand and compute probable error to determine the reliability of the coefficient of correlation.

Unit	Contents	No. of Periods
Unit I	1.1 HCF & LCM ofTwo or More Integers 1.2 Linear Equation with One & Two Variables 1.3 Ratio & Proportion 1.4 Simple Interest & Compound Interest 1.5 Percentage 1.6 Discount	13
UnitII	2.1 Meaning & Definitions of Statistics 2.2 Significance Scope and Limitations of Statistics 2.3 Data Collection: - Primary & SecondaryData, Construction of Frequencies. 2.4 Measurement of Central Tendencies: -Mean, Median &Mode	13
UnitIII	3.1 Meaning & Definitions of Standard Deviation, Co-efficient of Variation, Problems on Standard Deviation and Coefficient of Variation.	12
UnitIV	4.1 Index Number: Meaning, Characteristics, Importance and Uses. 4.2 Construction of Index Numbers: - 4.2.1 Aggregative Index Number 4.2.2 Fisher's Ideal Index Number	12
UnitV	5.1 Correlation: Meaning & Definition 5.2 Co-efficient of Correlation Karl Pearson's Formula, Calculation of Co-efficient of Correlation in grouped & ungrouped data. 5.3 Probable error.	13

UnitVI	Skill Enhancement Module
	   1.1 Collect data and construct series.
	   1.2 Analyse and describe data with data descriptor and find correlation
		12

Skill Enhancement Module Outcomes: After going through the Skill Enhancement Module, the student will be able to:
a) Collect relevant data from various sources and organize it into appropriate series or datasets. Apply suitable methods to clean and format the collected data for analysis.
b) Apply descriptive statistics to analyze and summarize data, including measures of central tendency, dispersion, and graphical representation. Use appropriate techniques to find and interpret the correlation between variables in a dataset.

Reference Books:
1. Hood R.P.: Statistics for Business and Economics: (Publisher : Macmillon, New Delhi)

2. Levin Richard and Devid S. Rubin: Satatistics for Management: (Publisher-Prentice Hall, Delhi)
3. D.N.Elhance.: Fundamentals of Statistics:
4. D.C.Sancheti, V.K.Kapoor: Statistics: Theory, Methods and Application: (Publisher - S.Chand)
5. Dr.Shukla& Sahay: सांख्यिकीकेसिद्धांत : .Sahitya Bhavan Publication, Agra
6. B.N.Gupta.: सांख्यिकीय
7. Ghosh R. K. & Shah S. : Business Mathematics, New Central Agency Pvt. Ltd. Culcutta
8. S.P.Gupta: Statistical Methods, Sultan Chand & Sons, New Delhi.
9. S.C.Gupta& V.K.Kapoor : Fundamentals of Applied Statistics,
10. Dr. Varsha S. Sukhadeve: Modern Approach to Statistics: By Sugawa Prakashan, Pune 30.
11. Dr. Varsha S. Sukhadeve: A Text Book on Business Mathematics & Statistics, Sugawa Prakashan, Pune.
12. Dr. Gupta B. N. : Statistics, Sahitya Bhavan Publication, Agra
13. डॉ. शुक्लएवंसहायः व्यवसायिकसांख्यिकीय, साहित्यभवनपब्लिकेशन, आगरा
14. सांख्यिकीतत्वआणिव्यवहारःएस. एस. कोलते, पिंपळापुरेअँडकं. पब्लिशर्स, नागपूर.
15. डॉ. शुक्लएस.एम. व्यवसायिकगणित, साहित्यभवनप्रकाशन, आगरा
16. Dr. Mohata & Dr. Kotak : Business Mathematics, Saijyoti Publication, Nagpur
17. D. C. Sancheti & Kapoor V. K :Business Mathematics, Sultan Chand & Sons, New Delhi.