

**SECOND YEAR B. B. A.**  
**Paper- 4 BUSINESS STATISTICS**

(Effective from June 1999)

1. Collection, Classification of data Frequency, distribution, Measurement of central tendency Mean, Median, Mode, Variance, standard Deviation range quartile deviation. 10%
2. Probability- Sample space, event, probability of and event addition and multiplication rules, independent events. 15%
3. Idea of a random variable and its Mathematical expectation. probability distribution and their applications. 15%
4. Large & small sample tests, Analysis of variance one-way & two-way classifications with one observation per cell regression. 10%
5. 1. Regression correlation : measures of correlation / linear regression, tests of significance. 10%  
2. Multiple & partial correlation upto three variance definitions and computations. 10%
6. Sampling method- sample surveys & basic concepts of simple random sampling, stratified random sampling : Two Stage sampling, Systematic and cluster sampling. 10%
7. Time series analysis components of time series & methods of estimation of trend seasonal components by moving averages and by linear regression. 10%
8. Index Numbers : Fixed Base and chain Base method. Price & Quantity index, Factors construction of index numbers, deflating prices and income Laspayer's, Paashe's & Fisher's Index Number, Time Reversal and Factor reversal Tests. 10%
9. Statistical quality control : Charts for variables and attributes Elementary acceptance sampling plans, single sampling plan for attributes. 10%

**Reference Book :**

1. Practical Business Statistics Frederick F. Croxton & Dudley Asia publishing House, Ps. 20.
2. Modern Business Statistics John B. Freund & Frank, J. Williams, Modern Asia Edition (Prentice Hall Inc. Charles E. Tuttle)
3. Statistics : Methods & Analysis, Lincol L. Chao, McGraw-Hill Book Co. (international Student Edition) S. 5.20.
4. Statistics Analysis for business Decision, William A. Supurr & Charles P. Bonini Richard D. Triwin Inc. Home wood, illunoise S..9.95.
5. Wheldon's Business statistics and Statistics Method G.L. Thrikettle Macdonald & Evansm Ltd.
6. Statistics for Economic and Business, Donald W. Paden E.F. Lindquist, McGraw-Hill Book Co, India. S. 2-15.
7. Executive Decisions thought O.R. Wagner T.M.