B.A/B. Sc-III Semester- VI

Paper-I (ST-601)

Time: 3 Hours

M.M.:B.Sc: 40+10*
B.A: 28+7*
* Internal Assessment

Statistical Quality Control

Note : There will be nine questions in all. Question No.1 will be compulsory covering whole of the syllabus and comprising 5 to 8 short answer type questions. Rest of the eight questions will be set from the four units uniformly i.e. two from each unit. The candidate will be required to attempt five questions in all selecting one question from each unit and the compulsory one. All the questions will carry equal marks except the compulsory question, the distribution of marks for which will be as follows:-
B.Sc.8 marks and B.A. 6 marks.

UNIT-I

Statistical Quality Control : Meaning and uses of SQC, causes of variations in quality, product and process control, control charts, 3- σ control limits, control chart for variables- $\bar{X}$ and R chart, criteria for detection of lack of control in $\bar{X}$ & R Charts, Interpretation of $\bar{X}$ & R charts.

UNIT-II

Control chart for standard deviation (σ chart), control charts for attributes: 'p' chart and 'c' chart, Concept of 6- σ limits.

UNIT-III

Acceptance sampling : Problem of lot acceptance, stipulation of good and bad lots, producer's and consumers risks, single and double sampling plans, their OC functions, concepts of AQL, LTPD, AOQL, average amount of inspection and ASN function.

UNIT-IV

Demand Analysis : Laws of demand and supply, price elasticity of demand, demand function with constant price elasticity, partial and cross elasticities of demand, types of data required for estimating elasticities: family budget data, time series data- Leontief's and Pigous's methods to estimate demand functions. Engel's law of income and expenditure, Pareto's Law of income distribution, curves of concentration, Lorenz curve and Gini's coefficient.

Books recommended

S. No.	Title of Book	Name of author	Publisher
1.	Statistical Quality Control	Grant E.L.	McGraw Hill
2.	Statistical Methods in Quality Control	Cowden D.J.	Asia Pub. Society
3.	Statistical Theory and Methodology in Science & Engineering	Brownlee K.A.	John Wiley & Sons
4.	Engineering Statistics	Bowker H.A. & Liberman G.T.	Prentice Hall
5.	Fundamentals of Applied Statistics	Gupta S.C. & Kapoor V.K.	Sultan Chand & Sons
6.	Fundamentals of Statistics, Vol. II	Goon A.M., Gupta & M.K. Dasgupta B.	World Press Calcutta