

ST.JOSEPH'S COLLEGE FOR WOMEN (AUTONOMOUS), VISAKHAPATNAM
V (B) SEMESTER STATISTICS TIME: 4HRS/WEEK
ST 5202(3) QUALITY AND RELIABILITY MAX.MARKS:100
SYLLABUS

Unit-I

Importance of SQC in industry, statistical basis of shewart control charts, uses of control charts.

Interpretation of control charts, control limits, Natural tolerance limits and specification limits.

Unit – II

Variable Control Chart: Construction of \bar{X} , R charts for variables, Attribute control charts- NP, P charts, C chart.

Unit-III

Acceptance sampling plans: Scope, Producer's risk and consumer's risk. Concepts of AQL and LTPD.

Unit-IV

Sampling Plans: Single and double sampling plans, OC and ASN functions, double and single
Sampling plans for attributes using Binomial.

Unit-V

Reliability: Introduction, failure rates, Hazard function, estimation of reliability, exponential distribution as life model, its memoryless property.

Text Books:

1. BA/BSc III year paper - IV Statistics - applied statistics - Telugu academy by Prof.K.Srinivasa
Rao, Dr D.Giri. Dr A.Anand, Dr V.Papaiah Sastry.
2. Fundamentals of applied statistics : VK Kapoor and SC Gupta
3. S.K Sinha: Reliability and life testing. Wiley Eastern.

Reference Books :

1. R.C.Gupta: Statistical Quality Control.

Practicals - Semester – V

Conduct any 6 (Ms -excel is compulsory)

1. Construction of (\bar{X} ,R) charts.
2. Construction of P-chart-Fixed sample size.
3. Construction of P-chart-variable sample size
4. Construction of NP-Chart.
5. Construction of C-Chart.
6. MS-Excel methods for the Serial Numbers 1.
7. MS-Excel methods for the Serial Numbers 2 to 4 .