

AMPR16 ENGINEERING STATISTICS AND QUALITY CONTROL

UNIT-1 SAMPLING THEORY AND TESTING OF HYPOTHESIS

- 1.1 Population, sample- influence of sample size
- 1.2 Estimation of population parameter from sample- mean and variance, difference of means, variances and ratios of variances
- 1.3 Tests of hypothesis- large and small samples- Chi-square distribution- F distribution.

UNIT-2 STATISTICAL PROCESS CONTROL

- 2.1 Variation in process- Factors- control charts- variables \bar{X} R and \bar{X} , ,
- 2.2 Attributes P, C and U-Chart Establishing and interpreting control charts process capability
- 2.3 Quality rating- Short run SPC.

UNIT-3 ACCEPTANCE SAMPLING

- 3.1 Lot by lot sampling types- probability of acceptance in single, double, multiple sampling plans- OC curves- Producer's risk and consumer's risk.
- 3.2 AQL, LTPD, AOQL, Concepts Design of single sampling plan
- 3.3 Standard sampling plans for AQL end LTPD – use of standard sampling plans
- 3.4 Sequential sampling plan.

References Books:

1. Bester field D.H., "Quality Control" Prentice Hall, 7th edition 2003
2. Manohar Mahajan, "Statistical Quality Control", Dhanpal Rai & Sons, 2001.
3. Sharma S.C., "Inspection Quality Control and Reliability", Khanna Publications, 2004.