# **80Hours**

Module 1: Quantitative Techniques: Introduction to quantitative techniques-Qualitative and quantitative approaches-role in decision making - Significance of quantitative decisions - Probability distributions-Discrete & Continuous-Binomial, Poisson, Uniform, Exponential, Normal distributions- Inferential analysis for management – statistical estimation – point estimation – interval estimation – Properties of a good estimator. Confidence intervals for means (a) when  $\sigma$  is known, and (b) when  $\sigma$  is not known.Sample size determination for a mean.Confidence intervals for proportions.

# 20 hours

Credit:4

Module 2: Hypothesis Testing: One and Two-sample Tests: General methodology of hypothesis testing. One and two-tailed tests. Type I and type II Errors. One Sample Tests: Hypothesis testing of means when the population standard deviation is known and when it is not known. Hypothesis tests concerning proportions. Two-sample Tests: Tests for difference between means - when population standard deviations are known, and when they are not known. Inferences about difference between two means for matched samples. Testing of difference between two proportions.

## 15 hours

Module 3 Analysis of variance & Non parametric tests: F-test of equality of variances. One-factor ANOVA (Completely Randomised Model) and Two-factor ANOVA without replication (Randomised Block Model). Chi-square test for independence & Goodness of fit. Sign test, one sample runs test and rank correlation test

# 20 hours

Module 4: Correlation and Regression analysis: Simple, partial & Multiple correlation, Simple & multiple linear regressions, Co-efficient of Determination

### **10 Hours**

Module 5: Use of Excel and SPSS for quantitative methods (Application level)- Analysis tools -Descriptive statistics and inferential analysis **15 Hours** 

(Theory 30% Problem 70%).