

PROGRAM MODULES:

Detail program schedule is given below:

SAS ANALYTICS**1. Introduction to Analytics & Basic Statistics**

- Types of Analytics
- Properties of Measurements
- Scales of Measurement
- Types of Data
- Measures of Central Tendency
- Measures of Dispersion
- Measures of Location
- Presentation of Data
- Skewness and Kurtosis

2. Introduction to Probability Theory

- Three Approaches towards Probability
- Concept of a Random Variable
- Probability Mass Function
- Probability Density Function
- Expectation of A Random Variable
- Probability Distributions

3. Sampling Theory And Estimation

- Concept of population and sample
- Techniques of Sampling
- Sampling Distributions

4. Theory of Estimation

- Concept of estimation
- Different types of Estimation

5. Testing of hypothesis

- Concept of hypothesis
- Null hypothesis
- Alternative hypothesis
- Type-I error
- Type-II error
- Level of Significance
- Confidence Interval
- Parametric Tests and Non Parametric Tests
- One Sample T test
- Two independent sample T test

- Paired Sample T test
- Chi square Test for Independence of Attributes.

6. Analysis of variance

- One Way Anova
- Two Way Anova

7. Exploratory Factor Analysis

- Principal Component Analysis
- Estimating the Initial Communalities
- Eigen Values and Eigen Vectors
- Correlation Matrix check and KMO-MSA check
- Factor loading Matrix
- Diagrammatic Representation of Factors
- Problems of Factor Loadings and Solutions

8. Cluster Analysis

- Types of Clusters
- Metric and linkage
- Ward's Minimum Variance Criteria
- Semi-Partial R-Square and R-Square
- Diagrammatic Representation of clusters
- Problems of Cluster Analysis

9. Linear Regression and Multiple Linear Regression

- Concept of Regression and features of Linear line.
- Assumptions of Classical Linear Model
- Method of Least Squares
- Understanding the Goodness of Fit
- Test of Significance of The Estimated Parameters
- Multiple linear Regression with their Assumptions
- Concept of Multicollinearity
- Signs of Multicollinearity
- The Idea Of Autocorrelation

10. Time Series Analysis

- Concept of Time Series and its Applications
- Assumptions of Time Series Analysis
- Components of Time Series
- Smoothing techniques