

**Syllabus for Screening Test to the post of Assistant Professor
in the discipline of Management with the specialization of
Data Analysis/Data Science/Decision Science/ Business Data Analytics**

Measures of Central Tendency

Measures of Dispersion

Correlation

Types of data

Data preprocessing: Data cleaning, Outlier analysis

Data transformation & data discretization

Attribute Reduction Methods

Principal Component Analysis

Logistic Regression, Linear Regression

Timeseries – ARIMA, Holt-Winters

Statistical Tests – Null hypothesis, One-tail and two tail, Type I and Type II errors, ANOVA (Analysis of Variance), Parametric (t-test) and nonparametric tests, Chi-square test

Machine Learning – Supervised learning, Unsupervised learning, Reinforcement learning, overfitting, underfitting, Bias-Variance

Ensemble Methods: Random Forest

Naïve Bayes

Neural Networks – Radial Basis Function, Convolution Neural Network, Multilayer Feed forward Network, Multilayer Feed Forward with Backpropagation

Decision Trees

Support Vector Machines

Deep learning

Cross-validation

Performance measures

Clustering – K-means, Hierarchical

Associative Rule Mining

Apriori algorithm

Collaborating Filtering

Big data analytics

Sentimental Analysis – Latent Semantic Analysis, Bag-of-words, ontology based