**PG Program in Analytics**

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| **KNN + SVM + Naive Bayes + PCA -Class Assessment** | **[Time: 4 hrs] [Total Marks: 100 ]** |

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|  | **For the given ‘Wine’ dataset, perform the following tasks:** | **Marks** |
| Q.1 | Compute and plot those feature which are related to each other? | **[15]** |
| Q.2 | What are the optimum number of principal components in PCA? | **[10]** |
| Q.3 | Build a KNN classifier considering optimal number of principal components and value of K and state its score. | **[20]** |
| Q.4 | Build a SVM Classifier and tune the hyperparameters to get the optimum model. | **[20]** |
| Q.5 | Build a Naive Bayes Classifier and comment about its accuracy. | **[20]** |
| Q.6 | Compare all of the models and justify your choice about the optimum model. | **[15]** |