WORK SHEET_1_MACHINE LEARNING

1. . What is the most appropriate no. of clusters for the data points represented by the following dendrogram:
   ANS: b) 4

2. In which of the following cases will K-Means clustering fail to give good results?
   ANS: d) 1, 2 and 4

3. The most important part of is selecting the variables on which clustering is based.
   ANS: d) formulating the clustering problem

4. The most commonly used measure of similarity is the or its square
   ANS: a) Euclidean distance

5. _____is a clustering procedure where all objects start out in one giant cluster. Clusters are formed by dividing this cluster into smaller and smaller clusters.
   ANS: b) Divisive clustering

6. Which of the following is required by K-means clustering?
   ANS: b) Number of clusters

7. The goal of clustering is to?
   ANS: a) Divide the data points into groups

8. Clustering is a?
   ANS: b) Unsupervised learning

9. Which of the following clustering algorithms suffers from the problem of convergence at local optima?
   ANS: d) All of the above
10. Which version of the clustering algorithm is most sensitive to outliers?
    ANS: a) K-means clustering algorithm

11. Which of the following is a bad characteristic of a dataset for clustering analysis?
    ANS: d) All of the above

12. For clustering, we do not require?
    ANS: a) Labeled data

13. ANS: The hierarchical cluster analysis follows three basic steps: 1) calculate the distances, 2) link the clusters, and 3) choose a solution by selecting the right number of clusters. First, we have to select the variables upon which we base our clusters.

14. How is cluster quality measured?
ANS: To measure the quality of a clustering, we can use the average silhouette coefficient value of all objects in the data set.

15. ANS: Cluster Analysis is a technique whose goal is to group objects based on user selected attributes. Hierarchical cluster analysis, centroid based cluster analysis, distribution based clustering and density based clustering are the types of clustering analysis.