**ASSESMENT – 2**

**\*\* MACHINE LEARING WORK SHEET ANSWERS \*\***

* **Objective type questions :-**

1. Movie Recommendation systems are an example of:

* **Clustering**

1. Sentiment Analysis is an example of:

* **Regression, Classification, Reinforcement.**

1. Can decision trees be used for performing clustering?

* **True.**

4. Which of the following is the most appropriate strategy for data cleaning before performing clustering analysis, given less than desirable number of data points:

* **Capping and flooring of variables.**

1. What is the minimum no. of variables/ features required to perform clustering?

* **1.**

1. For two runs of K-Mean clustering is it expected to get same clustering results?

* **No.**

1. Is it possible that Assignment of observations to clusters does not change between successive iterations in K-Means?
   * **Yes.**
2. Which of the following can act as possible termination conditions in K-Means?
   * **For a fixed number of iterations.**
3. Which of the following algorithms is most sensitive to outliers?

* **K-means clustering algorithm.**

1. How can Clustering (Unsupervised Learning) be used to improve the accuracy of Linear Regression model (Supervised Learning):

* **All of the above.**

1. What could be the possible reason(s) for producing two different dendrograms using agglomerative clustering algorithms for the same dataset?
   * **All of the above.**

# Subjective type questions :-

1. IsK sensitive to outliers?

**Ans :- The K-means clustering algorithm is sensitive to outliers, because a mean is easily influenced by extreme values.**

1. Why is K means better?

**Ans :- K means better because its Guarantees convergence can warm-start the positions of centroids. Easily adapts to new examples. Generalizes to clusters of different shapes and sizes, such as elliptical clusters.**

1. Is K means a deterministic algorithm?

**Ans :- The basic k-means clustering is based on a non-deterministic algorithm. This means that running the algorithm several times on the same data, could give different results.**