Answer Sheet :

Topic: Machine learning

1. A

2. D

3. A.

4.A

5.B

6.B

7.Yes

8.D

9.Options not match with the question, As per my understanding question is not correct .

10.A

11.D

12.E

13. Yes,The *K*-means clustering algorithm is sensitive to outliers, because a mean is easily influenced by extreme values. *K*-medoids clustering is a variant of *K*-means that is more robust to noises and outliers. Instead of using the mean point as the center of a cluster, *K*-medoids uses an actual point in the cluster to represent it. Medoid is the most centrally located object of the cluster, with minimum sum of distances to other points. Figure 1 shows the difference between mean and medoid in a 2-D example. The group of points in the right form a cluster, while the rightmost point is an outlier. Mean is greatly influenced by the outlier and thus cannot represent the correct cluster center, while medoid is robust to the outlier and correctly represents the cluster center.

14. K-means clustering is an unsupervised algorithm which you can use to organise large amounts of retail data to generate competitive insights about your business. There are many use cases which can help you implement this practice in your business and compete strategically in the retail market. Another key upside of K-means, the standard data mining tool is

that as opposed to conventional statistical methods, the clustering algorithms do not depend on statistical distributions of data and can be used with little prior knowledge exists.

- It gives good results
- It is already implemented in the software
- Number of clusters has to be fixed before
- Dependent of the initialisation parameters and the chosen distance

15. The non-deterministic nature of K-Means is due to its random selection of data points as initial centroids. The key idea of the algorithm is to select data points which belong to dense regions and which are adequately separated in feature space as the initial centroids.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. However, to ensure consistent results, FCS Express performs k-means clustering using a deterministic method.

Topic : SQL

1.D

2. D

3. A

4.C

5.B

6.D

7.D

8.C

9.B

10.D

11.B

12.A

13.A

14.B ,C,D

15.B

Topic : Statistics

1.B

2. C

3. D

4.B

5.B

6.B

7.C

8.C

9.D

10.A

11.B

12.D

13.D

14.A

15.D