Name _____

[2 Points Each]

1. Which of the following will be true about k in k-NN in terms of Bias?

    A. When you increase the k the bias will be increases
    B. When you decrease the k the bias will be increases
    C. Can't say
    D. None of these

2. When you find noise in data which of the following option would you consider in k-NN?

    A. I will increase the value of k
    B. I will decrease the value of k
    C. Noise can not be dependent on value of k
    D. None of these

3. What is the time complexity of the K-means algorithm? Use the O-notation. (n –no of number of training data d –no of features, k –no of clusters and i –no of iterations)

    A. $O(n^d ki)$

   B. $O(n^k di)$

    C. $O(n^{kd} i)$

    D. O(nkdi)

4. Given, six points with the following attributes:

|	p1	p2	p3	p4	p5	p6
p1	0.0000	0.2357	0.2218	0.3688	0.3421	0.2347
p2	0.2357	0.0000	0.1483	0.2042	0.1388	0.2540
p3	0.2218	0.1483	0.0000	0.1513	0.2843	0.1100
p4	0.3688	0.2042	0.1513	0.0000	0.2932	0.2216
p5	0.3421	0.1388	0.2843	0.2932	0.0000	0.3921
p6	0.2347	0.2540	0.1100	0.2216	0.3921	0.0000

Table : Distance Matrix for Six Points

Which of the following clustering representations and dendrogram depicts the use of MIN or Single link proximity function in hierarchical clustering:
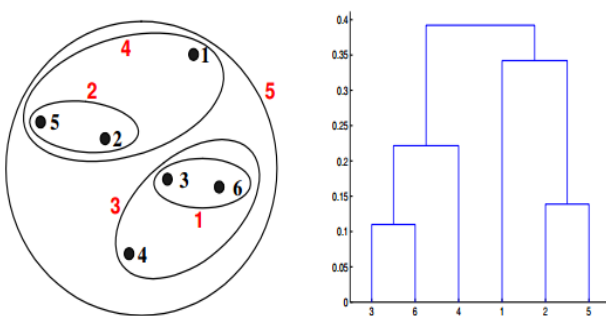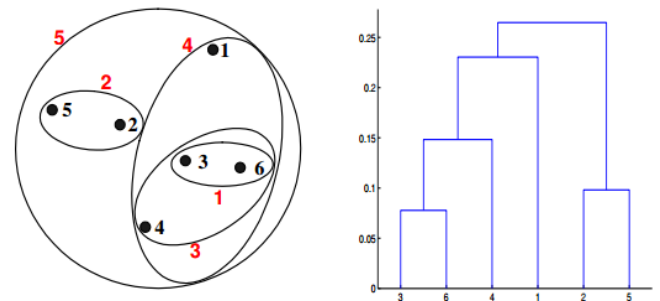
A.
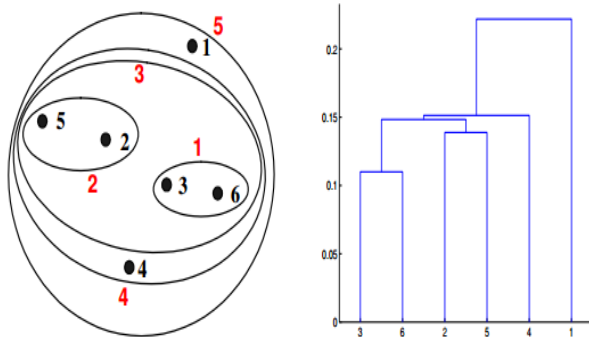
C.
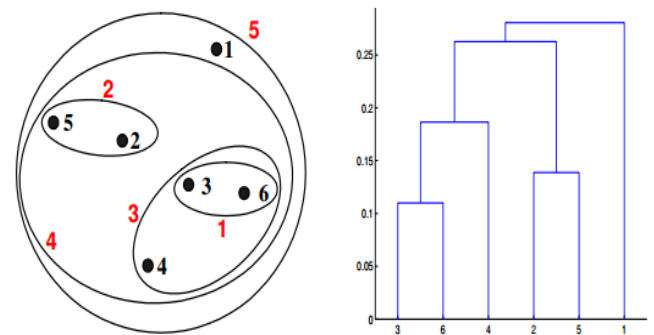
B.

D.

5. What are the general tasks that are performed with backpropagation algorithm?

   A. Pattern mapping
   B. Function approximation
   C. Prediction
   D. All of the mentioned

6. Draw a NAND gate using a single perceptron, if cannot be drawn using a single perceptron explain why?