Answers to true and false questions

1.False: Kmeans does a hard assignment of clusters but EM does not . This is because Kmeans is deterministic. It hard assigns a data point to one particular cluster only whereas EM gives only the probability of one point belonging to a centroid or not.

2.False : Kmeans assume clusters to be spherical and does not assume data to be in any kind of distribution like the normal distribution and uses L2 norm whereas EM does require a specific distribution like normal and uses expectation.

3.False : Only kmeans uses distance as a norm for assigning point to a cluster , whereas EM gives only the probability of one data point belonging to cluster or not.

4.False. EM clustering is a model based algorithm. The model that we followed, assumes the distribution to be normal(mixture of gaussian models),eash cluster has a normal distribution, and not poisson.