Q1. What are the differences between Linear discriminant analysis and nonlinear discriminant analysis? (5)

Q2. What is bagging and boosting? (5)

Q3. Use KNN to solve this problem below (10)

We have data from the questionnaires survey (to ask people opinion) and objective testing with two attributes (acid durability and strength) to classify whether a special paper tissue is good or not. Here is four training samples

X1 = Acid Durability (seconds)	X2 = Strength (kg/square meter)	Y = Classification
7	7	Bad
7	4	Bad
3	4	Good
1	4	Good

Now the factory produces a new paper tissue that pass laboratory test with X1 = 3 and X2 = 7. Without another expensive survey, can we guess what the classification of this new tissue is?

Q4. Explain the generative probabilistic classification? (5)

Q5. What is machine learning? Discuss the issues in machine learning and the steps required for selecting right machine learning algorithm. (5)