Show your working in all calculations.

1. a) Explain the difference between **ordinal** and **continuous** attributes. Give TWO examples of each type of attribute.

   (6 marks)

   b) Define what an **ROC curve** represents and the type of task that it can be applied to. Describe how you would compute the ROC curve for a logistic regression model.

   (6 marks)

   c) Consider models such as decision trees that do not provide accurate class probability estimates. What is the disadvantage of using models of this type in applications where there are costs?

   (5 marks)

   d) For each of the following types of problem, describe briefly how it differs from a classification problem and give TWO example applications:

   i) regression;

   ii) outlier detection.

   (8 marks)