Answer all question.

1. State and prove the revelation principal for Bayesian incentive compatible mechanisms.

   [5+5 Marks]

2. Suppose we have the set of outcomes as \( X = \{a, b\}, L(X) = \{a > b, b > a\} \), and we have \( n \) players for some integer \( n \geq 5 \). Give example of 2 social choice functions \( f_1, f_2 : L(X)^n \rightarrow X \) both of which are unanimous, non-dictatorship, and dominant strategy incentive compatible.

   [5+5 Marks]