1. In the Contact Process, write equations for the following stages:
   a) the formation of sulphur dioxide;
   b) the conversion of sulphur dioxide into sulphur trioxide;
   c) the conversion of sulphur trioxide into concentrated sulphuric acid.

2. State the conditions for the conversion of sulphur dioxide to sulphur trioxide:
   a) proportion of sulphur dioxide to oxygen in the reaction mixture;
   b) temperature;
   c) pressure;
   d) catalyst.

3. The conversion of sulphur dioxide to sulphur trioxide is reversible, with the forward reaction forming sulphur trioxide being exothermic.

   There are a number of ways that the choice of conditions affects the process:
   - their effect on the position of equilibrium;
   - their effect on the rate of the reaction;
   - their effect on the economics of the process.

   By considering each of these (where relevant), explain the choice of the conditions you gave in question 2 with respect to
   a) the proportion of sulphur dioxide to oxygen;
   a) the choice of temperature;
   b) the choice of pressure;
   c) the use of the catalyst.