PART 4 (20 marks = 10% of paper)

Answer the following extended answer question. Where applicable use equations, diagrams and illustrative examples of the chemistry you are describing.

Marks are awarded principally for the relevant chemical content of your answer, and also for coherence and clarity of expression. Your answer should be presented in about 1½ to 2 pages on the lined paper after the questions.

An understanding of the three dimensional structure of a covalent molecule enables its polarity and intermolecular forces to be predicted.

Expand on this statement by discussing the following topics;

(a) Electron pair repulsion theory.
(b) Shapes of molecules.
(c) Molecular polarity.
(d) Intermolecular forces.

Use H_2O, CH_4, CO_2, NH_3 and any other appropriate molecules as examples.