CONCLUSION

This thesis entitled “A Study on Decision Making in Fuzzy Environment” is an attempt to analyse the various aspects of Decision making problems such as ranking the alternatives, aggregating the individual opinion to form a group consensus opinion by considering the importance of experts, ranking the alternatives when the value of attributes are considered as intervals, and the construction of linear programming model based on consistency and inconsistency indices defined on the basis of preferences between alternatives given by the decision maker. The thesis is the consolidation of different notions that enrich the realm of decision making where the environment is fuzzy. Throughout we have employed triangular fuzzy numbers as a parameter to depict the vagueness governing the fuzzy decision making problems, since the advantage of this triangular membership function is that it produces a computationally tractable membership function, which is close to the real structure of the decision maker’s subjective concept about the objectives. Conclusively we record below the findings of this thesis.

♦ The ranking order of the alternatives is determined by employing TOPSIS method using a new proposed distance, for triangular fuzzy numbers.

♦ Since the exact value of the attributes precisely is not possible in some cases, their values are considered as intervals and the normalization processes is developed by using the notion of $\alpha$-cuts.
♦ Ranking of the alternatives is arrived using the fuzzy credibility method (FCR) and the notion of relativity function by constructing the C-matrix, the matrix of relativity values.

♦ Consolidating the individual opinions to form a group consensus opinion is established by involving the notion of similarity assessment in terms of triangular fuzzy numbers and by employing fuzzy preference relation.

♦ The Fuzzy Positive Ideal Solution (FPIS) and the weights of attributes are calculated using the linear programming model based on consistency and inconsistency indices defined by using the new distance method.