Fuzzy sets and fuzzy logic, was founded in the mid sixties by Professor Lotfi Zadeh. Fuzzy sets and fuzzy logic are powerful mathematical tools for modelling and controlling uncertain systems in industry, humanity and nature; they are facilitators for approximate reasoning in decision making in the absence of complete and precise information. Their role is significant when they are applied to complex phenomena not easily described by traditional mathematics.

Zadeh’s ideas have found applications in Computer Science, artificial intelligence, decision analysis, information science etc.,

In 1970, Bellman and Zadeh have precisely defined the notion decision making in a fuzzy environment. In 1998, Stefan Chanas, Dorota Kuchta introduced the concept of fuzzy integer transportation problem. In 2001, Waiel F. Abd El-Wahed introduced the concept of Multi-objective transportation problem. This thesis “Contribution to the Study on Transportation Problem in Fuzzy Environment” consists of six chapters.
Chapter 1 deals with the fundamental concepts of fuzzy set theory, decision making in a fuzzy environment, fuzzy numbers and the summary of the thesis.

In Chapter 2, a solution for solving the transportation problem having fuzzy parameters in the constraints and utilization of Kuhn – Tucker conditions corresponding to parametric problem is discussed.

In Chapter 3, a two stage cost minimizing fuzzy transportation problem in which supplies and demands are trapezoidal fuzzy numbers. A parametric approach is used to obtain a fuzzy solution.

Chapter 4, solves the transportation problem with fuzzy supply and demand values and the integrality condition imposed on the solution. An efficient computational procedure is given for solving such model.

Chapter 5, presents fuzziness in preemptive goal programming formulation of a multi-objective unbalanced transportation problem with budgetary constraints in which the demand and budget are specified imprecisely.
Chapter 6, presents a fuzzy solution to the fuzzy solid transportation problem in which supplies, demands and conveyance capacities are trapezoidal fuzzy numbers. A parametric approach is used to obtain a fuzzy solution.

In Chapter 4, 5 and 6, numerical examples are solved through TORA computer software packages and outputs are given.