PREFACE

The present thesis is devoted to the study of 'Some Integer Programming and Sequencing Problems'. The thesis is divided into five chapters, starting with an introductory chapter which reviews the related literature for the problems discussed in the remaining chapters.

Chapter two, is concerned with the study of integer programming problem in which a new type of cut is proposed that considerably reduces the feasible region of an integer programming problem. This problem is then solved by an enumerative technique.

Chapter three, deals with the study of an assignment problem. First an assignment problem has been converted into a knapsack problem by aggregating the constraints and a heuristic method is then given to obtain the solution to the resulting problem.

Chapter four, discusses the n-Jobs and 3-Machines flow shop scheduling problems with transportation time. A branch and bound procedure is presented for obtaining an optimal solution to the n-Jobs and 3-Machines flow shop scheduling problem when the time taken by jobs going from one machine to another machine is given.

In chapter five, a 'Heuristic Dominant Principle' for solving the flow shop scheduling problems has been presented for obtaining an optimal or near optimal solution to the problem of n-Jobs and m-Machines (m>2), and the problem of n-Jobs on m-Machines where the concept of transportation time is involved. Furthermore, two special cases of n-Jobs and 3-Machines problem are discussed.

Each technique that is developed is illustrated by at least one numerical example.