WORK PLAN AND METHODOLOGY

We will consider inventory control problems in supply chain. These can be represented by a manufacturer, a warehouse and a retailer. Customer demand is satisfied by the retailer. The demand at the retailer is satisfied by the warehouse and the warehouse demand is satisfied by the manufacturer.

There are two approaches of solving an inventory problem are

1. Cost minimization method
2. Profit maximization method

RESEARCH DESIGN

Firstly, we will form difference or differential equation. These equations are solved by using boundary conditions. Optimum value of total cost or profit is given by using the classical optimization technique. Optimization techniques such as calculus, finite differential, partial differentiation and the solution of a system of simultaneous equations can be applied to find the solution of inventory model.

DATA ANALYSIS

The present research work is supported by literature survey in the area of supply chain management. This research work involves qualitative and quantitative analysis. Computer software package allows flexibility to investigate the behavior of models. Mathematical software like matlab, mathematica etc. will be used to analyze the models. Case tool method will also be used to support the model.
CHAPTER PLAN

The problems of studies have their roots in the literature of various books and research paper published in different research journals.. The proposal is to develop supply chain models in different realistic business situations. The content of the research work will take place in different chapters of the thesis.

Chapter one will be introductory in nature. It will contain introduction, objectives and importance of inventory management and supply chain, meaning and functions of inventory and supply chain, types of inventory and supply chain, various related cost and technical terms related to inventory.

Next chapter will be devoted to an extensive review of the previous work done by researchers.

Next chapter will devoted to the development of inventory model for supplying a single perishable product from producer to distributors and retailers. Demand will be taken as the time dependent function of time.

Other chapter will be concerned about supply chain inventory models for deteriorating items with the effects of backlogging..

The next chapter will be devoted to the development and analysis of model with deterioration. Demand will be taken as stock dependent.

In the proposed study one chapter deals with an economic order quantity model for deteriorating items when delay in payments is permissible.
One chapter will be devoted towards the development of optimal policy for items having the effects of inflation. Bibliography will be given at the end of the thesis.