**Production Scheduling Optimization**

**Set:**

**Parameters:**

**Decision Variables:**

**Auxiliary Variables:**

**Objective Function (Minimize Total Cost):**

**Constraints:**

*Logical relationship among decision variables*

*To make constraint (1) linear,*

*In a given time period only single product can run on a Line*

*Relationship among production, demand, inventory, safety stock, excess inventory and inventory shortage*

*Relationship among production, demand, inventory, overflow capacity & overflow inventory*

**Alternate Solution**

**Set:**

**Parameters:**

**Decision Variables:**

**Objective Function (Minimize total Changeover time):**

**Constraints:**

*Logical Relationship among decision variables*

*To make constraint (1) linear,*

*In a given time period only single product can run on a Line*

*Days of supply to be maintained for all product in all time period*