

PRODUCTION PLANNING & CONTROL

INTRODUCTION

Production Planning is a managerial function which is mainly concerned with the following important issues:

- What production facilities are required?
- How these production facilities should be laid down in the space available for production? and
- How they should be used to produce the desired products at the desired rate of production?

Production planning is concerned with two main aspects:

- (i) routing or planning work tasks
- (ii) layout or spatial relationship between the resources.

Production planning is dynamic in nature and always remains in fluid state as plans may have to be changed according to the changes in circumstances.

Production control is a mechanism to monitor the execution of the plans. It has several important functions:

- Making sure that production operations are started at planned places and planned times.
- Observing progress of the operations and recording properly.
- Analyzing the recorded data with the plans and measuring the deviations.
- Taking immediate corrective actions to minimize the negative impact of deviations from the plans.
- Feeding back the recorded information to the planning section in order to improve future plans.

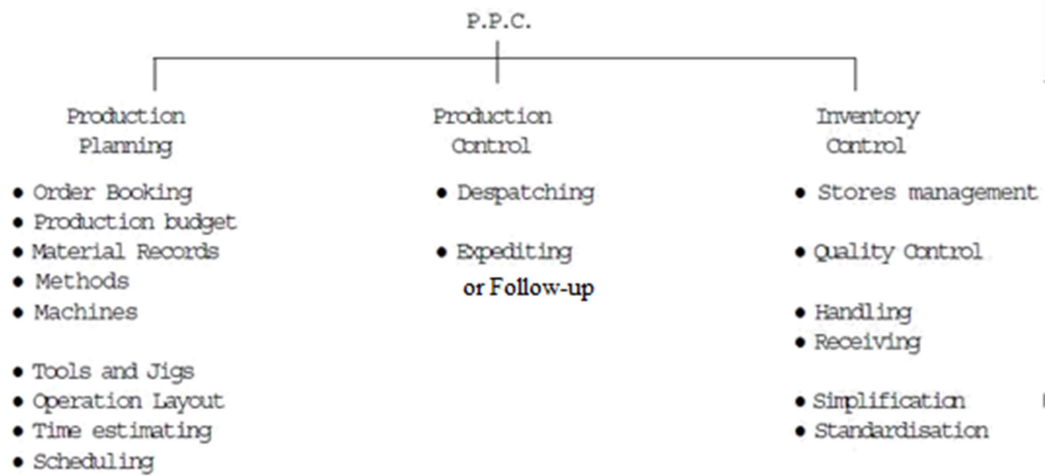
OBJECTIVES AND BENEFITS

- Minimize costs / maximize profits
- Maximize customer service
- Minimize inventory investment
- Minimize changes in production rates
- Minimize changes in work-force levels
- Maximize the utilization of plant and equipment

FUNCTIONS OF PRODUCTION CONTROL

- Production function encompasses the activities of procurement, allocation and utilization of resources.
- The main objective of production function is to produce the goods and services demanded by the customers in the most efficient and economical way.
- Therefore, efficient management of the production function is of utmost importance in order to achieve this objective.

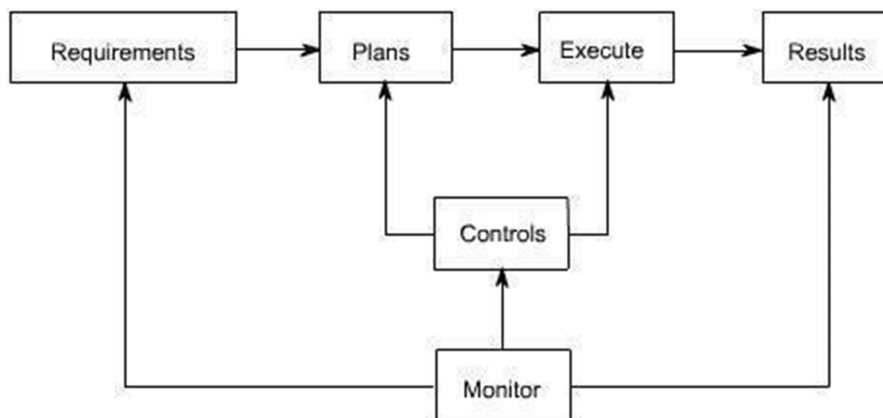
ORGANISATION CHART FOR P.P.C. DEPARTMENT



An organization chart for production management department.

A block diagram depicting the architecture of a control system is shown in Figure .

Figure : Architecture of Control System



Important functions covered by production planning and control (PPC) function in any manufacturing system are shown in [Table](#) along with the issues to be covered.

Table : Production Planning and control Functions

Functions	Issues to be covered
Product Design& Development	Customer needs, market needs, availability of similar product, demand-supply gap, functional aspects, operational aspects, environmental aspects etc.
Demand Forecasting	Quantity, Quality & Demand pattern
Capacity Planning	No. of machines, No. of tooling, workers, No. of flow lines, Quantity, Quality and rate of production, demand pattern.
Equipment Selection & Maintenance	No. of machines, type of M/c, Quality aspects, Quantity aspects, rate of production, Cost of equipments, support from the supplier, maintenance policy, storage of spare parts.
Tooling Selection	Compactability between w/c steels, No. of tools, their cost, their material etc, storage policy.
Material Selection & Management	Types, specification, quality aspect, quantity aspect, cost, supplies reputation , lot size, inventory levels, setup cost, mode of transportation etc.
Process Planning	Generation of manufacture instruction, selection of M/c, tools, parameters, sequence etc.
Loading	Division of work load, assignment of tasks, uniform loading, matching between capability & capacity with job requirements.
Routing	Path selection for material movement as per the process plan and loading, minimum material handling and waiting time.
Scheduling	Time based loading, start and finish times, due dates, dispatching rules, re-scheduling.
Expediting/ Follow-up	Operation Scheduling and order and progress reporting.