

Production Planning and Control

Production

Production is the process by which raw materials are converted into finished products by performing a set of manufacturing operations in pre-determined sequence which transforms the materials in a desired shape and form.

Planning

Planning is defined as the pre-determination of future achievements, type of products, volume of production, quality, time, price in manufacture and resources required.

Control

Control is defined as the supervision of all the relevant operations that feeds back the progress of the work.

Objective of Production Planning and Control

The major objective of the PPC can be stated as:-

- To design a system and plan, by which production may be carried out with a view to meet promised delivery date consistent with minimum cost and quality standard.
- To ensure efficient utilization of production facilities
- To coordinate the production activities of different departments
- To maintain adequate but not excessive stock of raw materials, work in process and of finished goods to meet production requirements and delivery schedules at the most economical level.

- To ensure production of right product in right quality at the right time.
- To maintain flexibility in manufacturing operations, to accommodate rush jobs(faster jobs) or to meet contingencies.
- To coordinate labour , machines and equipment in the more effective and economic manner.
- Ensuring smooth flow of materials by eliminating bottlenecks if any, in production.
- Establishing targets and checking it against performance.
- To provide alternative production strategies in case of emergencies .
- To determine the nature and magnitude of various input factors to manufacture the desired output.

Functions of Production planning and Control

The various functions are:-

1. Planning phase

Prior planning

- Fore-casting
- Order writing
- Product design

Action planning

- Process planning and routing
- Material control
- Tool control
- Loading
- scheduling

2. Action phase

Dispatching

3. Control phase

- Progress reporting

 - Data collection

 - Data interpretation

- Corrective action

 - Expediting

 - Replanning

- Forecasting:- Estimation of type, quantity and quality of future work. These estimates provide the basis for establishing the future for men, materials, machines, time and money.
- Order-writing:- Authority is given to one or more persons to undertake a particular job.
- Product design:- Collection of information regarding specifications , bill of materials, drawings, etc.
- Process planning and routing:- Determines the most economical method of performing an activity.

- Material control:- determines the requirements and control of materials.
- Tool control:- Design and procurement of new tools, control storage and maintenance of tools after procurement.
- Loading:- Assigns work to manpower, machinery etc.
- Scheduling:- Determination when the work is to be done. It fixes the starting as well as finishing time for the job.
- Dispatching:- transition from planning phase to action phase. Worker is ordered to start the actual work.
- Data collection:- Collects data about the job progress.
- Data Interpretation:- When the data has been collected , then it is interpreted by comparing the actual performance against the plan.
- Expediting:- Taking action if the progress reporting indicates a deviation of the plan from the originally set targets.
- Replanning:- Replanning of the whole affair is essential.

Relation between Production Planning and Control

