

1.15 Two Marks Questions with Answers

Q.1 What is production ?

Ans. : Production consists of a series sequential operation to produce a desirable product acceptable to customer and meets the customer demand, with respect to the quality and intended function.

Q.2 Define the term production planning and control.

Ans. : Production planning and control can be defined as "the process of planning or deciding on the resources the firm will require for its future manufacturing operations and of allocating and time scheduling these resources to produce the desired products on time at the least total cost."

Q.3 What are the objectives of production planning and control ?

Ans. :

- i. To make all preparations to manufacture goods within specified time and cost.
- ii. To make available supply of materials, parts and components at the right time.
- iii. To ensure most economical use of plant and equipment by scheduling best machine utilization.
- iv. To provide information for production management and distribution of goods.

Q.4 What are the functions of production planning and control ?

Ans. :

- a. Material function, b. Machines and equipment, c. Methods,

- d. Routing,
- e. Estimating
- f. Loading and scheduling,
- g. Dispatching,
- h. Expediting
- i. Inspection.

Q.5 Define Production Planning.

Ans. : According to Kim bait and Kimball Jr. "The planning of industrial operations involves four considerations, namely, what work shall be done, how the work shall be done and lastly, when the work shall be done".

Q.6 Define production control.

Ans. : Production control may be defined as "the process of planning production in advance of operations; establishing the exact route of each individual item, part of assembly; setting and finishing dates for each important item, assembly and the finished products, and releasing the necessary orders as well as initiating the required follow-up to effectivate the smooth functioning of the enterprises."

Q.7 Compare production planning and production control.

Ans. :

	Production planning	Production control
a)	Production planning is a Pre-production activity	Production control will be in action when production activity begins.
b)	Planning is useful to anticipate the problems and devising remedial measure in case the problem arises.	Control involves in taking corrective steps in case of error to match actual performance against the planned performance.

Q.8 Define the term durability.

Ans. : Durability refers to the length of the active life of the product under given working condition.

Q.9 Define the term dependability.

Ans. : Dependability refers to the reliability with which the product serves its intended function.

Q.10 Define the term standardization.

Ans. : Standardization is a process of defining and applying the conditions necessary to ensure that given range of requirements can normally be met with a minimum of variety and in a reproducible and economic manner on the basis of the best current techniques.

Q.11 What are the objectives of Standardization ?

Ans. :

- i) Interchangeability of parts, components, etc.
- ii) Keeping the variety minimum.
- iii) Helps to achieve a better control due to reduced variety.

Q.12 What are the advantages of standardization ?

Ans. :

- i) Reduction of waste and obsolescence.
- ii) Reduction in inventory.
- iii) Reduced efforts in book keeping and accounting.
- iv) Standardization reduces the price because of economy of scale.
- v) Ease in procurement because of availability.

Q.13 What is simplification ?

Ans. : It is a process of reducing types of products within a definite range.

Q.14 What is specialization ?

Ans. : It is a process where in particular firms concentrate on the manufacture of limited number of product types.

Q.15 What are the disadvantages of simplification ?

Ans. :

- i) Not able to meet the needs of wide range of customer preferences.
- ii) Possibility of losing orders to competitors.
- iii) Creates a constant source of conflict between marketing and production.

Q.16 Define the term break-even point.

Ans. : Break-even point refers to the level of sales at which the sale income equal the total costs.

Q.15 What is margin of safety ?

Ans. : It is the difference between the existing level of output and the level of output at BEP.

Q.17 What are the phases of PPC ?

Ans. :

- i. Preplanning phase
- ii. Planning phase
- iii. Control phase

Q.18 What are the main functions of PPC ?

Ans. :

1. Materials planning
2. Methods planning
3. Facility planning
4. Process planning
5. Estimating planning
6. Scheduling and loading
7. Dispatching
8. Expediting (Follow-up)
9. Inspection and testing
10. Evaluation

Q.19 Mention the types of production.

Ans. :

1. Job shop production
2. Batch production
3. Mass production

Q.20 What are the two types of continuous production ?

Ans. :

- a) Mass production
- b) Flow production

Q.21 What is the use of break-even point analysis ?

Ans. : It is used to make a choice between two machines tools to produce a given component.

Q.22 Define contribution.

Ans. : The difference between selling price and variable cost per unit is known as contribution or contribution margin.

$$\text{Contribution} = \text{Selling price} - \text{Variable cost}$$

Q.23 What is break even chart ?

Ans. : It is a graphical representation of the relationship between costs and revenue at a given time.

Q.24 What is product design ?

Ans. : Design is the conversion of knowledge and requirement into a form, convenient and suitable for use of manufacture.

Q.25 Mention the various aspect of product.

Ans. :

- a) Functional aspect
- b) Operational aspect
- c) Durability and Dependability
- d) Aesthetic aspect

Q.26 What is angle of incidence ?

Ans. : The angle at which sales revenue line cuts the total cost line.

Q.27 What are the 3S's with respect to product development techniques ?

Ans. :

1. Standardization
2. Simplification
3. Specialization

Q.28 What are preferred numbers ? Mention their uses.

Ans. :

- Preferred Numbers is defined as series of numbers selected to be used for standardization purposes in preferences to other numbers.
- The use of preferred numbers will lead to simplified practice. Therefore, the preferred numbers must be used whenever possible for single standard sizes and ratings.

2.21 Two Marks Questions with Answers

Q.1 What is method study ?

Ans. : It is the systematic recording and critical examination of existing and proposed ways of doing work, as a means of developing and applying easier and more effective method reduced costs.

Q.2 What are the objectives of method study?

Ans. :

- i) To present and analyze true facts concerning the situation.
- ii) To examine those facts critically.
- iii) To develop the best answer possible under given circumstances based on critical examination of facts.

Q.3 What are the charts used for method study ?

Ans. : i) Operation process chart, ii) Flow process chart. iii) Multiple activity chart, iv) Two handed process chart v) Travel chart, vi) SIMO chart.

Q.4 What are the diagrams used for method study?

Ans. :

- i) Flow and string diagram,
- ii) Models and templates,
- iii) Cycle graph and chronocycle graph.

Q.5 What is outline process chart?

Ans. : The chart gives the bird's-eye view of the whole process by recording only the major activities and inspections involved in the process.

Q.6 What is time study ?

Ans. : The application of techniques designed to establish the timer for a qualified worker to carry out a specified job at a defied level of performance.

Q.7 What is work sampling ?

Ans. : A technique in which a statistically competent number of instantaneous observations are taken, over a period of time, of group of machines, process or workers. Each observation recorded for a particular activity or delay is a measure of the percentage of time observed by the occurrence.

Q.8 What is multiple activity chart ?

Ans. : It is a chart on which the activities of more than one subject are each recorded on a common time scale to show their interrelationship.

Q.9 What is SIMO chart ?

Ans. : It is used to record simultaneously on a common time scale the activities of two hands or other parts of worker's body during the performance of single cycle of operation being investigated.

Q.10 What are therbligs ?

Ans. : Therbligs are the symbols used to denote the various activities and movements done for different purposes.

Q.11 What is memo motion study ?

Ans. : Memo motion study is a form of time-lapse photography which records activity by the use of cine camera adapted to take picture at longer intervals than normal.

Q.12 What is PMTS ?

Ans. : A work measurement technique whereby times established for basic human motions are used to build up the time for a job at the defined level of performance.

Q.13 Define Work-study

Ans. : It is a term used to embrace the techniques of method study and work measurement which is employed to ensure the best possible use of human and other resources in carrying out a particular activity.

Work study = Method study + Work measurement

Q.14 Define Productivity.

Ans. : It is the ratio of output produced to the input resources utilized in the production.

Q.15 What is the various procedure of method study ?

Ans. : 1. Select 2. Record 3. Examine
4. Develop 5. Define 6. Install 7. Maintain

Q.16 Mention the various techniques used for work Measurement

Ans. : 1. Stopwatch time study 2. Work sampling

Q.17 Define outline process chart.

Ans. : An outline process chart is a process chart given an overall picture by recording in sequences only the main operations and inspections.

Q.18 What is flow process chart ?

Ans. : It is a process chart setting out the sequence of the flow of a product (Or) a procedure by recording all events under review using the appropriate process chart symbols.

Q.19 What are the types of flowchart?

Ans. : (i) Man Type (ii) Material Type (iii) Equipment Type

Q.20 What is two handed process Chart ?

Ans. : It is a process chart in which the activities of a workers hand (or limbs) are recorded in their relationship to one another.

Q.21 Define multiple activity charts

Ans. : It is a chart on which the activities of more than one subject are each recorded on a common time scale to show their inter relationship.

Q.22 What is string diagram ?

Ans. : It is a scale plan or model on which a thread is used to trace and measure the path of workers, material or equipment during a specified sequence of events.

Q.23 What is cycle graph ?

Ans. : It is a record of path movement, usually traced by a continuous source of light on a photograph.

Q.24 What is chronocycle graph ?

Ans. : It is a special form of cycle graph in which the light source is suitably interrupted so that the path appears as a series of pear-shaped dots.

Q.25 What is micro motion study ?

Ans. : It is used to make a detailed motion study employing either videotapes or motion pictures operating at a constant and known speed, when picture camera is utilized for study, then the procedure is known as micro motion study.

3.21 Two Marks Questions with Answers

Q.1 What is production planning ?

Ans. : It is the determination, acquisition and arrangement of all facilities necessary for future production products.

Q.2 What are the factors affecting production planning ?

Ans. : i) Non-availability of materials
ii) Plant, equipment and machine breakdown

iii) Changes in demand and rush orders.

iv) Absenteeism of workers.

v) Lack of coordination and communication between various functional areas of business.

Q.3 What is value analysis ?

Ans. : Value analysis is the systematic application of recognized techniques which identify the function of a product or service, establish a monetary value for the function and provide the necessary function reliably at that lowest overall cost.

Q.4 When to apply value analysis ?

Ans. : i) Company's products are loosing in the market and there is a decline in sales.

ii) Company's products are priced higher than the competitors.

iii) New design of products being undertaken.

iv) Symptoms of disproportionate increase in cost of production.

v) Decreasing profitability and return on investment.

vi) Company failing to meet its delivery commitment.

Q.5 What is process planning ?

Ans. : It is defined as the systematic determination of methods by which a product is to be manufactured economically and competitively.

Q.6 What are the activities associated with process planning ?

Ans. : i. List of operations to be performed and their sequence.

ii. Specifications of the machines and equipment required

iii. Necessary toolings jigs and fixtures.

iv. Gives the manufacturing details with respect to feed, speed, and depth of cut for each operation to be performed.

v. It gives the estimated or processing times of operations.

Q.7 What is the information required for process planning ?

Ans. : i) Assembly and component drawings and bill of materials.

ii) Machine or equipment details.

iii) The standard times for operation and details of set-up time for each job.

iv) Availability of toolings.

Q.8 What are the factors affecting process planning ?

Ans. : i) Volume of production

- ii) Delivery dates for components
- iii) Accuracy and process capability of machines.
- iv) The skill and expertise of manpower.
- v) Material specifications
- vi) Accuracy requirements of components or parts.

Q.9 What are the steps in process planning ?

- Ans. :
- i) Detailed study of the component drawings, process and machine selection, inspection stages and toolings required.
 - ii) List the surfaces to be machined.
 - iii) Determine the work centre, tools, cutting tools, jigs and fixtures and inspection stages and equipment required.
 - iv) Determine the speed, feed and depth of cut for each operation.
 - v) Estimate the operation time.
 - vi) Find the total time to complete the job.
 - vii) Represent the details on the process sheet.

Q.10 What is machine capacity ?

Ans. : MC- Machine capacity

MP-Max production

UC-Utilization capacity

N - Number of machines

ST-Standard time

$MC = ST \times MP / N \times UC.$

Q.11 What is meant by balancing ?

Ans. : It refers to the procedure of adjusting the times at work centres to conform as much as possible to the require cycle time.

Q.12 Define machine loading.

Ans. : It is the process of assigning specific jobs to machines, men (or) work centres based on relative priorities and capacity utilization.

Q.13 Define process.

Ans. : It is defined as any group of actions instrumental to the achievement of the output of an operations system in accordance with a specified measure of effectiveness.

Q.14 Give the purposes of process planning.

Ans. : a. Specific requirements are established for which machines, tools and other equipment can be designed or selected.

b. The efforts of all engaged in manufacturing the product is coordinated.

c. A guide is furnished to show the best way to use the existing or the providing facilities.

Q.15 What are the factors used for selection of machine and equipment ?

Ans. : a. Accuracy

b. Rate of output

c. Cost of product

Q.16 What is the main function of process planning ?

Ans. : 'Make or buy' decision is the main function of process planning. Here decision is made about which parts are to be made in the factory and which parts are to be bought from outside. Decision on whether to make or buy is taken by break even analysis.

Q.17 How the process selection is determined ?

Ans. : Process selection determine how the product (Or service) will be produced, It determines the most economical method of performing an activity.

Q.18 Mention the types of process planning.

Ans. :

a) Generative process planning

b) Retrieval process planning

Q.19 What is the function of CAPP ?

Ans. : A Computer Aided Process Planning (CAPP) system offers the potential for reducing the routine work of manufacturing engines. At the same time, It provides the opportunity to generate production routings which are rational, consistent and optimal.

Q.20 What are the advantages of generative process planning ?

Ans. :

a. Generate consistence process planning rapidly.

b. New components can be plan easily.

4.16 Two Marks Questions with Answers

Q.1 What is loading ?

Ans. : It is defined as the assignment of work to a facility. The facility may be men, machine, a department, a group of men, group of machines of a plant.

Q.2 What is scheduling ?

Ans. : It is time phasing of loading. It is defined as the assignment of work to a facility specifying the particular sequence of the work and the time of actual performance.

Q.3 What are the different techniques of loading and scheduling ?

Ans. :

- i) Master scheduling
- ii) Perpetual loading
- iii) Order scheduling
- iv) Loading by schedule period

Q.4 What is master scheduling ?

Ans. : It gives an overall picture of the jobs. It is mainly used for small corners such as research and development laboratories, computer centre, foundries, repair shop etc.

Q.5 What are the advantages of master scheduling ?

Ans. :

- i) The overall cost of operating is minimum than any other loading and scheduling systems.
- ii) This method is very simple to understand.
- iii) This could be even maintained by clerical staff.
- iv) It could be easily kept current.

Q.6 What are the disadvantages of master scheduling ?

Ans. :

- i) The detailed information cannot be obtained.
- ii) It is efficient for small units only.

Q.7 What is line balancing ?

Ans. : Assembly line balancing is associated with a product layout in which products are processed as they pass through a line of work centres. An assembly line can be considered as a production sequence where parts are assembled together to form an end product. The operations are carried out at different workstations situated along the line.

Q.8 What are the advantages of assembly line ?

Ans. :

- i) Uniform rate of production.
- ii) Less material handling
- iii) Less work-in-process.
- iv) Easy production control.
- v) Effective use of facilities/labour.
- vi) Less congesting.

Q.9 What are the disadvantages of assembly line ?

Ans. :

- i) More capital intensive.
- ii) Low flexibility.
- iii) Monotony of work for operators.

Q.10 What are the steps in solving line balancing problems ?

Ans. :

- i) Define task
- ii) Identify precedence requirements.
- iii) Calculate minimum number of workstations required to produce desired output.
- iv) Apply heuristics to assign task to each station.
- v) Evaluate effectiveness and efficiency.
- vi) Seek further improvement.

Q.11 What are the advantages of Gantt load chart ?

Ans. :

- i) This system is quite simple.
- ii) This could be maintained even by electrical staff after some training.
- iii) Overall cost of operation is small.

Q.12 What are the disadvantages of Gantt load chart ?

Ans. : From the load chart it is not possible to learn the exact time of a work. It tells only the total load ahead of a department or a facility.

Q.13 Explain the Kanban system.

Ans. : Kanban system is a simple information system used by a work centre to signal its supplier work centre to request a replacement container and to authorize production of another container of that particular item.

Q.14 What is production sequencing ?

Ans. : Determining the order of processing of all jobs at each work centre.

Q.15 What is expediting ?

Ans. : Monitoring progress, taking corrective actions to minimize deviations.

Q.16 What are the main objectives of loading ?

Ans. :

- i) To check the feasibility of production programmes
- ii) To assists in the efficient planning of new work
- iii) To assists in balancing the plant to the existing load
- iv) To assists in fixing of reliable delivery promises.

Q.17 Define capacity.

Ans. : It can be defined as the time available for work at work centres expressed in machine hours or in man hours.

Q.18 What is Gantt chart ?

Ans. : Gantt chart is simple bar graphs that can be used to schedule any type of operation.

Q.19 What is Gantt Work load chart ?

Ans. : It is used to depict workload levels for equipment, workstations (Or) departments.

Q.20 What is MRP ?

Ans. : It is a computational technique that converts the master schedule for final product into a detailed schedule for the raw material and parts used in the final product.

Q.21 What is MPS ?

Ans. : It is a detailed plan that states how many end items will be available for sale (Or) distribution during specific periods.

Q.22 What is dispatching ?

Ans. : It is the routine of setting productive activities in motion through the release of orders and instructions in accordance with previously planned times and sequences embodied in route sheets and schedule charts.

Q.23 Define priority sequencing.

Ans. : It is a systematic procedure for assigning priority to waiting jobs thereby determining the sequence in which the jobs will be performed.

5.16 Two Marks Questions with Answers

Q.1 What are the types of inventories?

Ans. : i) Raw materials, ii) Bought out parts, iii) Work-in-process inventories, iv) Finished goods inventories v) Maintenance, repair and operating stores.

Q.2 What are the benefits of inventory control?

Ans. : i) Improvement in customer's relationship because of the timely delivery of goods and services.

ii) Smooth and uninterrupted production and hence no stock out.

iii) Efficient utilization of working capital.

iv) Helps in minimizing loss due to deterioration, obsolescence damage and prelifeferage.

v) Economy in purchasing.

vi) Eliminates the possibility of duplicate ordering.

Q.3 What is inventory turnover?

Ans. : If the company maintains inventories equal to 3 months consumption. It means that inventory turnover is 4 times a year, i.e., the entire inventory is used up and replaced 4 times a year.

Q.4 Define the term Re-order level.

Ans. : It is the point at which the replenishment action is initiated. When the stock level reaches R.O.L., the order is placed for the item.

Q.5 Define the term Re-order quantity.

Ans. : This is the quantity of material to be ordered at the re-order level. Normally this quantity equals the economic order quantity.

Q.6 What is demand?

Ans. : It is the number of items required per unit of time. The demand may be either deterministic or probabilistic in nature.

Q.7 Define the term order cycle.

Ans. : The time period between two successive orders is called order cycle.

Q.8 What is lead time?

Ans. : The length of time between placing an order and receipt of items is called lead time.

Q.9 What are the various costs associated with inventory?

Ans. :
i) Purchase cost, ii) Capital cost, iii) Ordering cost, iv) Holding costs, v) Shortage cost.

Q.10 What is an Economic order quantity?

Ans. : It is the quantity to be ordered is one that strikes a balance between the inventory carrying cost and the inventory carrying cost. This quantity is referred to as economic order quantity.

Q.11 What is safety stock?

Ans. : The additional stock of material to be maintained in order to meet the unanticipated increase in demand arising out of uncontrollable factors.

Q.12 What are the advantages of ABC analysis?

Ans. : This approach helps the manager to exercise selective control and focus his attention only on a few items.

Q.13 What are the limitations of ABC analysis?

Ans. : ABC analysis is a fundamental tool for exercising selective control over numerous inventory items but in present for do not precise consideration of all relevant problems of inventory management. It is not one time exercise and items are to be reviewed and recategorised periodically

Q.14 What is inventory?

Ans. : An inventory is a stock of an item (or) idle resource held for future use.

Q.15 What is inventory control?

Ans. : It may be defined as the scientific method of determining what to order, when to order and how much to order and how much to stock so that costs associated with buying and storing are optimal without interrupting production and sales.

Q.16 Define ordering costs (Co)

Ans. : It is the cost associated with the placement of an order for the acquisition of inventories.

Q.17 What is holding (Or) inventory carrying costs?

Ans. : The cost associated with holding a given level of inventory on hand.

Q.18 What is shortage (Or) stock out costs.

Ans. : When the stock of an item is depleted and there is a demand for it ,then the shortage cost will occur.

Q.19 What is demand?

Ans. : It is nothing but the no. of items required per unit of time.

Q.20 Explain briefly order cycle.

Ans. : The time period between two successive orders is called order cycle .When orders are placed at equal time intervals it is known as fixed order interval system (Or) cycle review system.

Q.21 Define lead time

Ans. : The time gap between placing of an order and its actual arrival in the inventory is known as lead time.

Q.22 What is Re-order point (Or reorder level)?

Ans. : The level of inventory at which an order is placed is known as reorder point or reorder level.

Q.23 What is safety stock?

Ans. : This represents the minimum stock which must be maintained at all times.

Q.24 What is Re-order Quantity?

Ans. : The quantity of items to be ordered at the re-order level is known as re-order quantity.

Q.25 What is inventory turn over?

Ans. : It is defined as the ratio of the value of materials consumed to the average investment in inventories for the same period.

$$\text{Inventory turn over} = \frac{\text{Value of the material consumed}}{\text{Value of average inventory}}$$