



MOHAMED SATHAK A.J. COLLEGE OF ENGINEERING

(Approved by AICTE, New Delhi and Affiliated to Anna University, Chennai)



DEPARTMENT OF MECHANICAL ENGINEERING

**IE 8693 - PRODUCTION PLANNING AND
CONTROL**

QUESTION BANK

IE 8693

PRODUCTION PLANNING AND CONTROL L T P C 3 0 03

UNIT I

INTRODUCTION

9

Objectives and benefits of planning and control-Functions of production control-Types of production job-batch and continuous-Product development and design-Marketing aspect - Functional aspects-Operational aspect-Durability and dependability aspect aesthetic aspect. Profit consideration-Standardization, Simplification & specialization- Break even analysis- Economics of a new design.

UNIT II

WORK STUDY

9

Method study, basic procedure-Selection-Recording of process - Critical analysis, Development - Implementation - Micro motion and memo motion study – work measurement - Techniques of work measurement - Time study - Production study - Work sampling - Synthesis from standard data - Predetermined motion time standards.

UNIT III

PRODUCT PLANNING AND PROCESS PLANNING

9

Product planning-Extending the original product information-Value analysis-Problems in lack of product planning-Process planning and routing-Pre requisite information needed for process planning- Steps in process planning-Quantity determination in batch production-Machine capacity, balancing- Analysis of process capabilities in a multi product system.

UNIT IV

PRODUCTION SCHEDULING

9

Production Control Systems-Loading and scheduling-Master Scheduling-Scheduling rules-Gantt charts-Perpetual loading-Basic scheduling problems - Line of balance – Flow production scheduling- Batch production scheduling-Product sequencing – Production Control systems- Periodic batch control-Material requirement planning kanban – Dispatching-Progress reporting and expediting- Manufacturing lead time-Techniques for aligning completion times and due dates.

UNIT V

INVENTORY CONTROL AND RECENT TRENDS IN PPC

9

Inventory control-Purpose of holding stock-Effect of demand on inventories-Ordering procedures. Two bin system -Ordering cycle system-Determination of Economic order quantity and economic lot size-ABC analysis-Recorder procedure-Introduction to computer integrated production planning systems-elements of JUST IN TIME SYSTEMS-Fundamentals of MRP II and ERP.

UNIT I INTRODUCTION

PART A (2Marks)

1. How can you classify the production system? (April / May2016) (N/D2017)

A) Job shop production B) batch production C) mass production D) process or continuous production

2. What do you understand by product standardization? (A/M2016) (N/D2018)

Standardization means producing maximum variety of products from the minimum variety of materials, parts, tools and processes. It is the process of establishing standards or units of measure by which extent, quality, quantity, value, performance etc., may be compared and measured.

3. What do you mean by specialization? (A/M2016)

Specialization is a process whereby particular firms and concentrate on the manufacture of a limited number of products or types of products.

4. What do you understand by break-even analysis? (A/M) (N/D2016) (A/M 19)

Breakeven analysis is also known as cost -volume- profit analysis, is a study of inter relationship among a firms sales , costs and operating profit at various levels of output.

Breakeven analysis is used to determine when your business will be able to cover all its expenses and begin to make a profit. it is important to identify your start-up costs, which will help you determine your sales revenue needed to play ongoing business expenses.

5. List the various functions/activities of PPC?(A/M2015)

- a) Materials planning b) methods planning c) facility planning d) process planning
- e) Estimating f) scheduling and loading g) dispatching i) expediting j) inspection and testing
- k) Evaluation

6. List the Objectives of Planning and Control (A/M2015)(N/D2017) (A/M 19)

1. To plan production facilities in the best possible manner along with the proper systematic planning of production activities.
2. Providing men, machines, materials etc., of right quality and also providing them at the right time forms a very important factor.
3. To inform, about the difficulties or the various awkward position expected to crop up later, to the management beforehand.
7. Define production control. (N/D2016)

It is defined as reviews the progress of the work, and take corrective steps in order to ensure that programmed production takes place.

8. Define production planning.

It is defined as the determination acquisition and arrangement of all facilities necessary for future production of products

9. List the Phases of PPC. (Apr/May 2018)(N/D2018)

- a) pre-planning phase b) planning phase c) control phase

10. What is Production system?

A production is the frame work within which the conversion of input into output occurs. At the end of the production system are the inputs and at the other end outputs.

11. Define batch production.

In batch production the products are made in small batches and in large variety. Each batch contains identical items but every batch is different from the others

12. Compare and Contrast product simplification with product diversification.

Product simplification: It is the process of reducing the variety of product manufactured i.e, variety reduction.

Product diversification: It is completely opposite to simplification. Product diversification involves adding new products or lines of products to achieve a balanced product range.

13. List the advantages of specialization.

A) better utilization of equipments B) higher productivity C) greater efficiency D) better quality E) reduce production cost and hence lower unit price

14. What is production planning and control? (Apr/May 2018)

It may be defined as the direction and co-ordination of the organization's materials physical facilities towards the attainment of pre specified goals in the most efficient way.

**UNIT II
WORKSTUDY
PART A (2 Marks)**

1. What do you mean by work study? (N/D 2017)

It is generic terms for those techniques, particularly method study and work measurements, which are used in the examination of human work in all its context, and which lead systematically to the investigation of all the factors which affects the efficiency and economy of the situation being reviewed, in order to effect improvement.

2. What do you mean by synthetic data? (A/M2016)

Synthetic data is the data derived from the analysis of the accumulated work measurement data in the form of tables and formulas where the data is arranged in the form suitable for building up the standard times and similar machines processing times by synthesis

3. List the objective of workstudy. (A/M2018)

A) to find the most economical way of doing the work B) to simplify and standardize the methods, materials, tools and equipment. C) to determine the time required by a qualified worker to perform the work at a normal pace D) to plan the training programmes for the workers for the new methods

4. Define method study. (A/M2015) (N/D 2017,18)

It is systematic recording and critical examination of existing and proposed ways of loading work, as a means of developing and applying easier and more effective methods and reducing costs.

Method study is a systematic recording and critical examination of existing proposed ways of doing work as means of developing and applying easier and more effective methods and reducing cost

5. List the objectives of methodstudy.

a) to improve the processes and procedures b) to improve the design of plant andequipment
c) to improve theplanlayout d) to improve the use of men, materials and machines. e) toachieve efficient material handling f) to improve the flow of production andprocesses.

6. Differentiate between Permanent storage and Delay.

The difference is that a rewision chit or other form of formal authorisation is generally required to get an article out of permanent storage but not out of temporary storage.efine processchart?

A process chart is a graphical representation of the sequence of events and related information that occur in the work method or procedures

7. Mention the types of process chart?

The various types of process chartsare

- Outline processcharts
- Flow process chartand
- Two handed processchart

8. Define time study. (N/D2014)

Time study is defined as a work measurement technique for the recording the times and rates of working for the elements of a specified job carried out under specified conditions and for analysing the data so as to obtain the time necessary for carrying out the job at a defined level of performance.

9. Define performance rating.

It is the process of adjusting the actual pace of working of an operator by comparing i with the mental picture of pace of an operator working at normal speed

10. Define basic time and standardtime.

- Basic time is defined as time for carrying out an element of work at standard rating
- Standard time is time allowed to an operator to carry out specified task under specifiedcondition.

11. Define worksampling.

It is defined as method of finding the percentage occurrence of a certain activity by statistical sampling.

12. What are PMTS, MTA, WFS and MTM? (N/D 2017,18, A/M2019)

- PTMS- Predetermined Motion Time System-Determination
- MTA- Method Time Analysis-Economics
- WFS- Work Force System
- MTM- Method time Measurement

13. Mention the tools used in time study. (A/M2015)

- Select
- Obtain & Record
- Breakdown
- Measure
- Extend
- Determine
- Compute

UNIT III

PRODUCT PLANNING AND PROCESS PLANNING

PART A (2 MARKS)

1. List the activities of advanced product planning. (April/May 2016)

Manufacturing engineering, process engineering, process planning methods engineering, or tool engineering

2. List the various information required for process planning. (A/M2016)

- a) Assembly and component drawings and bill of materials.
- b) Machine or equipment details.
- c) The standard times for operation and details of set-up time for each job.
- d) Availability of toolings

3. State the major objective of assembly line balancing. (A/M2016)

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.

3. What is value analysis? (A/M,18, N/D2016)

Value analysis is a disciplined approach that ensures the necessary functions at minimum cost without compromising on quality, reliability, performance and appearance.

4. Define value? Give its types. (N/D2017,A/M 18)

Value in general taking the use value as an objective is the ratio between the function and the cost.

Value = Function / Cost

Types of economic value i) Use value ii) Esteem value iii) Cost value and v) Exchange Value

5. What is product planning? (N/D2016)

The evaluation of the range, mix, specification and pricing of existing and new products in relation to present and future market requirement and competition. Planning of products range, mix, specification and pricing to satisfy company objectives

6. List the information that can be obtained from the system maintenance concept.

- Identification of levels of maintenance support
- Definition of repair policies
- Definition of effectiveness measurement
- Establishment of supportability requirements in system/ equipment design-marketing
- Establishment of requirement for logistics support.

7. Distinguished between value analyses value engineering.

Value analysis is the application of a set of techniques to an existing product with a view to improve its value

Value engineering is the application of exactly same set of techniques to a new product at the design stage itself

8. List any four reasons for products unnecessary costs.

- Failure to utilize specialized knowledge
- Poor design of the components
- Lack of ideas and relevant information
- Belief in the old traditional method

9. Define process planning.

Process planning can be defined as an act of preparing a detailed processing documentation for the manufacturing a piece of part or assembly

10. List the factors affecting process planning.

- Volume of production
- Skill and expertise of man power
- Delivery dates for parts or products
- Material specification

11. Define machine balancing. (N/D17,A/M 19)

Machine loading is the process of assigning specific jobs to machine men or work centers based on relative priorities and capacity utilization

12. Define machineloadng. (A/M 19)

Machine loading is a display of the available capacity of a machine or workstation along with information whether it is overloaded or under loaded.

13. What are the considerations in selection of an equipment or process?

- Accuracy
- Rate of output
- Cost of product

**UNIT – IV PRODUCTION SCHEDULING
PART A (2 Marks)**

1. What is scheduling? What are its objectives? (A/M2016,N/D 16,A/M 18)

Scheduling refers to the setting of operation start dates so that jobs will complete by their dates

Objectives

To meet due date

To minimize lead time

To minimize setup time and cost to minimize WIP inventory

To maximize machine or labour utilization

2. What are Gantt charts? (A/M2015)

Gantt charts are visual aids used to depict the sequencing load on facilities or progress associated with work effort over a well defined time period

3. What is MRP? (A/M2016, N/D 17)

MRP is Computational technique that converts the master schedule for final products into a detailed schedule for the raw materials and parts used in final products

4. Define loading.

Loading is the assignment of work to a facility without specifying when work is to be done and in what Sequence

5. Define master scheduling? (A/M 19)

Master scheduling follows aggregate planning and express the overall plan in terms of specific end items to produce and dates to produce them.

6. Define MPS?

MPS is nothing but master production schedule that formalizes the production plan and translate it into specific end item requirement over to immediate planning horizon.

7. What is meant by EBQ scheduling?

EBQ Scheduling is nothing but the economic batch quantity scheduling that can be performed by using aggregate run out method.

8. Define dispatching rules?

Dispatching rules also known as priority rules or sequencing rules or scheduling rules are the rules used in obtaining a job sequence

9. Define priority sequencing? (N/D 17, A/M 19)

Priority Sequencing is a systematic procedure for assigning priorities to waiting jobs there by determining the sequence in which the jobs will be performed

10. List the various charts that are used in line-of-balance analysis. (N/D 16, 17)(A/M 19)

LOB is a charting technique that uses lead times and assembling sequencing to compare planned component completions with actual component completion

11. List the various inputs required for MRP

MPS, BOM, Inventory files

12. What is meant by Line Efficiency and Balance Delay?

The smaller balance delay means the less idle time (idle) an assembly line balancing. - Line efficiency is the ratio of work stations time to the cycle time multiplied by the number of stations and -

Smoothness index is an index that becomes the relative refining index of an assembly line balance

13. What is meant by Gantt chart and how it is constructed?

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

- (a) Scheduling or progress charts, which depicts the sequential schedule;
- (b) Load charts, which show the work assigned to a group of workers
- (c) Record a chart, which are used to record the actual operating times and delays of workers and machines

UNIT – V
INVENTORY CONTROL AND RECENT TRENDS IN PPC
PART A (2 Marks)

1. Define term inventory and inventory control. (A/M2016)(N/D 18)

Inventory is a stock of an item or idle resources held for future use

Inventory control 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 total cost associated with buying and storing are optimal without interrupting production and sales.

2. What do you mean by kanban production control system? Brief about Kanban (A/M 2015)

Kanban means sign or instruction card in Japanese. A kanban is a card that is attached to storage and transport container. It identifies the part number and container capacity along with other information.

3. What is MRP II? (A/M2015)(N/D 16) (A/M2019)

MRP II is defined as a computer based system for planning, scheduling and controlling the material resources and supporting activities needed to meet the Master production schedule

4. List four reasons for keeping an inventory.

- To maintain independence of operations
- To meet variation in product demand
- To allow flexibility in production scheduling
- To provide a safe guard for variation in raw materials delivery time.

5. What are inventory costs?(A/M2014).

Ordering costs, Carrying cost, Shortage cost, Purchase Cost

6. Define Lead time and Re-order point.

Lead time the gap between placing of an order and its actual arrival in the inventory is known as lead time

7. Define buffer stock, and re-order quantity. (A/M2018)

Safety stock represents the minimum stock which must be maintained at all times. If stock is less than the buffer stock, then the work will stop due to shortage of material

Reorder quantity is the items to be order at the re order level is known as re order quantity

8. Define EOQ.

The technique of economic ordering quantity strikes a balance between the ordering cost and the carrying cost. EOQ is that size of order which minimize the total costs of carrying inventory and ordering.

9. What is JIT?(A/M 19)

Just in Time JIT is a management that strives to eliminate sources of manufacturing waste by producing the right part in the right place at the right time.

10. What are the objectives of JIT? (A/M 19)

Zero Defects, Zero set up time, Zero inventories, Zero handling, Zero lead time, Zero break down and Lot Size of one

11. List the functions of MRP II?(N/D 16)

Management Planning, Customer services, Operations Planning, Operation Execution, Financial Functions.

14. What is two bin system? List its advantages (A/M2015)

Two bin system also referred as min-max system, is the oldest and most commonly used system. It is also referred as Q model.

It is useful for items of low unit value i.e. nuts screw etc.

15. State the elements of JIT? (N/D 16)

Technology Management, People management, System management

16. List the four ERP packages that are widely used in India

SAP, JD Edwards, Mfg/Pro, BPCS, Marshal, Oracle Financials

PART-B

UNIT I

INTRODUCTION

1. Discuss in detail about various functions of production planning and control. (A/M 2017)(A/M 2019)
2. Explain with example the various aspects of product development and design. (A/M 2017)
3. Compare between various types of production. (A/M 2018)
4. What answers marketing analysis give for the proposed product? (A/M 2018)
5. Explain the procedural steps involved in product development. (A/M 2019)
6. Explain the functional and operational aspects of products design with suitable examples. (N/D 2019)
7. Explain how standardization and simplification can benefits various departments of a company. (N/D 2019)
8. Explain different types of production systems and differentiate them. (N/D 2017)
9. Write about economics of a new design for a product. (N/D 2017)
10. Explain in details about Break Even Analysis and it principles.
11. A manufacturer sells an item for Rs.13 per unit. He incurs a fixed cost of Rs.60,000 and Variable cost of Rs.8 unit. Find the break even production quantity and also the number of units to be produced to get a profit of Rs.12,000. (A/M2016)
12. Write a note on Economics of new design. (A/M 2015) (N/D 2016)
13. Explain the objectives and benefits of planning and control (N/D 2014)
14. Why it is necessary to analyze the product. Explain the various analysis that are carried out? (A/M2014,18)

UNIT II

WORK STUDY

1. Write short notes on the following. (i) Micro motion (ii) Memo motion study. (A/M 2017)
2. Explain briefly the following techniques of work measurement. (i) Time study (ii)Production study (iii) Work sampling.(A/M 2017) (A/M 2019)
3. Write the objectives of method study. (A/M 2018)

4. Explain multiple activity chart with a good example. (A/M 2018)
5. State and explain in brief the steps involved in conducting the method study procedure. (A/M 2019) (N/D 2019)
6. Explain about various types of allowances considered in work measurement. (N/D 2019)
7. Explain the various symbols used in method study and develop a two handed process chart for assembling a bolt and nut. (N/D 2018)
8. Write short notes on the following work measurement techniques i) PMTS ii) work sampling iii) Synthetic data iv) Performance rating.
9. The elemental times for 4 cycles of an operation using a stop watch are presented below: Calculate the standard time for the operation if Elements 2 and 4 are machine elements (ii) For other elements, the operator is rated at 110% (iii) Total allowances are 15% of the normal time (A/M2016)

Elements	Cycle time in minutes			
1	1.5	1.5	1.3	1.4
2	2.6	2.7	2.4	2.6
3	3.3	3.2	3.4	3.4
4	1.2	1.2	1.1	1.2
5	0.51	0.51	0.52	0.4

10. A work sampling study was concluded to establish the standard time for an operation. The observation of the study conducted are given below: (A/M2016)
 - a) Total number of observations : 160
 - b) Manual (hand controlled) work : 14
 - c) Machine controlled work : 106
 - d) Machine idle time : 40
 - e) Average performance rating : 80%
 - f) Number of parts produced : 36
 - g) Allowance for personal needs and fatigue : 10%
 - h) Study conducted needs : 3 days
 - i) Available working hours/day : 8 hrs
11. How the standard time for a simple manual job is made up? Explain the various allowances used to build the standard time. (A/M2016)
12. Explain in detail about Effective “Therbligs” with suitable examples.
13. Explain the steps involved in work study.(N/D2016,17,18)
14. Briefly discuss the steps in work sampling study. (N/D2016,18)

UNIT III

PRODUCT PLANNING AND PROCESS PLANNING

1. Explain the phrase of “Extending the Product Original Information” with examples. (A/M 2017)
2. Explain how process capabilities are analyzed in a multi product system. (A/M 2017)
3. State the ten commandants of value analysis. (A/M 2018)
4. Explain the responsibilities of a process planning engineer. (A/M 2018)
5. What is value analysis? Explain the various Phrase of value analysis. (A/M 2019)
6. What are the various steps involved in process planning? (A/M 2019) (N/D 2019)

7. What is value analysis? Explain the various steps involved in value analysis. (N/D 2019)
8. Write a note on Prerequisite information for process planning. (N/D 2014)
9. Explain the steps involved in the standard procedure for process planning also explain various types of process planning methods
10. Define process planning and explain the various factors considered for selecting a process and equipment. (A/M2016)
11. Describe the problems due to the lack of Product Planning. (A/M2015)
12. What are the Steps in process planning? Explain in detail (A/M2015) (N/D 16,17) (A/M2019)
13. Discuss about Product planning. (A/M2015)
14. A gear Manufacturer has gear shaper and gear hobbers. The gear can be processed on gear shaper as well as gear hobber. The following information is given. Which of the two machines will you choose to do the job if the order quantity is (i) 1000 numbers and order is unlikely to repeat (ii) 1000 numbers and the order is likely to repeat for 3 years? (A/M2014)

	Gear Shaper	Gear Hobber
Machine time per piece(min)	12	4
Machine Cost per hour (Rs.)	45	120
Setup time (min)	60	90
Tooling up cost (Rs.)	400	2000

UNIT – IV PRODUCTION SCHEDULING

1. Explain Scheduling procedure with suitable example. (A/M 2017)
2. Discuss the concepts, inputs, characteristics, working output and benefits of MRP. (A/M 2017)
3. Discuss Gantt Charts in detail. (A/M 2018)
4. Explain various charts used in LOB. (A/M 2018)
5. Discuss in detail about the various factors that affect scheduling. (A/M 2019)
6. What is meant by dispatching? Enumerate and list the various functions of dispatching and explain various documents raised by the dispatcher. (A/M 2019)
7. Explain about line of balance technique and steps to be followed in LOB technique. (N/D 2019)
8. Explain the working of MRP with a neat block diagram. (N/D 2019)
9. Discuss a) Aggregate run-out method of batch scheduling. b) Line of balance method.
10. What is preventive maintenance.(A/M2016)
11. A small scale unit manufactures a product and it is expected to apply with week 1, 120 in week 4, 120 in week 6, 100 in week 8. Each product is made of 2 housings, a shaft assembly and one wheel. For these components order quantities, lead times and inventories on hand at the beginning of period as given below. Apart from the above requirement, another 180 shaft assembly is required for another customer 600 units of housing are already scheduled to be received as beginning of week 2. Complete the material requirement plan for housing shaft and wheel. Show that quantities of order must be released and when they must be released in order to satisfy the MPS. (A/M2016)

Part	Order Quality	Lead time	Inventory on hand
Housing	600	2 Week	200
Shaft assembly	400	3 Week	440
Wheel	800	1 week	10

12. Explain Batch production scheduling in detail.
13. Explain Scheduling techniques in detail.(N/D 18)
14. Explain Sequencing rules in detail.
15. An assembly line is to be designed to operate 7.5 hours per day and supply a steady demand of 300 units per day. The following table shows the tasks and their performance times.
 - (i) Draw the precedence diagram. (ii) What is the cycle time (iii) Assign tasks to work stations stating your logical rules (iv) What is the efficiency of your line balance?
16. Sequence the following jobs to minimize the processing times on the two machines. Also compute the idle times of the machines. (A/M2015)

Job	1	2	3	4	5	6
Machine 1	5	9	4	7	8	6
Machine 2	7	4	8	3	9	5

UNIT 5

INVENTORY CONTROL AND RECENT TRENDS IN PPC

1. Explain the purpose of maintaining inventory in any production unit. (A/M 2017)
2. Explain the ABC analysis and its significance in the inventory control with suitable examples. (A/M 2017)(A/M 2019) (N/D 2019)
3. Why do firms carry inventories? (A/M 2018)
4. Explain the costs associated with inventory. (A/M 2018)
5. A) List and explain different types of costs in inventory systems
B) What is meant by two bin inventory systems? (A/M 2019)
6. Explain various elements of JIT. (N/D 2019)
7. What is ERP?briefly explain. (A/M 2015)
8. Alpha industry estimates that it will sell 12,000 units of its products for the forthcoming year. The ordering cost is Rs. 100 per order and the carrying cost per unit per year is 20 percent of the purchase price per unit. The purchase price per unit is Rs. 50.Find (i) Economic order quantity (EOQ) (ii) No. of orders per year (iii) Time between successive orders. (A/M 2016)
9. A manufacturer has to supply his customers 3600 units of his product per year. Shortages are not permitted. Inventory carrying cost amounts Rs.1.2 per unit per annum. The set up cost per run is Rs.80. Find (i) Economic order quantity (ii) Optimum number of orders per annum (iii) Average annual inventory cost (iv)Optimum period of supply per optimum order. (A/M 2014)
10. What are the Effects of demand on inventories? (A/M2015)
11. Explain the Ordering procedure in detail.(N/D 17)
12. Perform ABC analysis on the items given below and classify them based on ABC analysis. (N/D2014,16)

Item	101	102	103	104	105	106	107	108	109	110
Annual consumption (units)	200	100	2000	400	6000	1200	120	2000	1000	80
Unit -Cost (Rs.)	40	360	0.2	20	0.04	0.8	100	0.7	1	400

13. Following components are required for repairing oil engines. Classify the same by ABC analysis (A/M2016)

Component code	C01	C02	C03	C04	C05	C06	C07	C08	C09	
Unit Cost (Rs)	100	200	50	300	500	3000	1000	7000	5000	
Annual consumption (units)	100	300	700	400	1000	30	100	500	105	

14. Discuss in detail about MRP-II. (A/M2016)

PART C

1. Discuss recent trends in PPC. (A/M 2018)
2. How will you determine minimum cost batch size? (A/M 2018)
3. You own a factory and make steel furniture as and when orders are received from customers. Describe the procedure you would follow for planning and control of production in your factory. (A/M 2019)
4. Write short notes on the following a)JIT b) ERP c)KANBAN (A/M 2019)
5. Explain the various symbols used in method study and develop a two handed process chart for assembling a bolt and nut. (N/D 2019)
6. A manufacturing company purchase 9000 parts of a machine for its annual requirements ordering for month usage at a time, each part costs Rs.20. The ordering cost per order is Rs.15and carrying charges are 15% of the average inventory per year. You have been assigned to suggest a more economical purchase policy for the company. What advice you offer and how much would it save the company per year? (N/D 2019)