

2000

(a) What consideration can drastically affect an item's classification as well as its control procedure in an ABC inventory analysis?

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6. (a) Define the JIT system and explain the basic concept of JIT manufacturing.

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(b) Oriental Fans manufactured 100,000 units of fans in the last financial year. It utilized 8 workers and 6 machines working for 8 hours a day during the 210 working days of the year in the production of these fans. What is the productivity of the company with respect to labour and machine inputs taken together?

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(c) Explain the role of value analysis in cost reduction programme.

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7. (a) Define quality and quality control. How is quality control different from total quality control?

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(b) A work sample study conducted over the 80 hours of a 2-week period yielded the following data—The idle time was 20%, the performance rating was 90% and total number of parts produced was 225, the allowance for this part is 25%.

Determine the standard time per unit.

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(c) Explain the concept of cost of quality.

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25 (2) POM 202

MBA 2nd sem

2006

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PRODUCTION AND OPERATIONS  
MANAGEMENT

Paper : 202

Full Marks : 70

Time : 3 hours

The figures in the margin indicate full marks  
for the questions

Answer any five questions

1. (a) What is the transformation process? Explain the transformation process of a bank.

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(b) What is a product life cycle? How can the life cycle of a product be extended?

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(c) Explain the following : 2×3=6

(i) Continuous process

(ii) Intermittent processes

(iii) Job shop

2. (a) Explain the various steps in facility location planning.

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(b) How many types of basic layouts are there for a facility? Briefly explain each of them.

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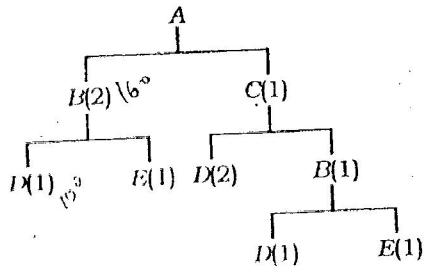
(c) There are four locations options for three new machines to be installed in a factory. The material handling costs in rupees per hour are given in the table below. Allocate the machines to locations such that the total material handling cost is the least :

Location	W	X	Y	Z
Machine I	54	14	37	41
Machine II	32	49	26	13
Machine III	17	21	23	33

3. (a) What is economic order quantity? Explain graphically the EOQ model of inventory with its simplifying assumptions.

(b) What is MRP? What are the inputs and outputs required by the MRP processing logic?

(c) Given the following product tree, explode, offset and determine the gross and net requirements. All LT are one week. The MPS calls for production of 100 As in week 4 and 50 in week 5. There are 300 Bs scheduled to be received in week 1 and 200 Ds in week 3. There are also 20 As available in stock. Determine purchase order requirement.



(a) An organisation with a stable workforce uses inventory, overtime and subcontracting to meet demand requirements. No shortages are permitted, and demand must be satisfied through in-house production or subcontracting. The following data are available :

Period	Expected Demand	Regular Capacity	Overtime Capacity	Subcontracting Capacity
1	1000	600	180	200
2	500	500	150	200
3	700	600	180	200
4	800	650	200	200
5	900	600	180	200
6	900	600	180	200

The beginning inventory at the start period 1 is 200 units and the desired ending inventory for period 6 is 100 units. Also

Regular cost/unit : Rs 100

Overtime cost/unit : Rs 125

Subcontracting cost/unit : Rs 130

Inventory holding cost/period : Rs 2/unit

Determine the minimum cost production plan.

5. (a) Explain the concepts of job enrichment and job enlargement.

(b) What is work sampling? How is it different from stopwatch time study?