

Total number of printed pages — 4

25(2) POM 202

2002

PRODUCTION AND OPERATIONS MANAGEMENT

Paper — 202

Full Marks — 70

Time : Three hours

The questions are of equal value.

Answer any five questions.

Period	Production capacity			Demand Forecast	
	Regular	overtime	Subcontract	Units of demand	
1	700	250	500	500	
2	500	250	500	800	
3	900	250	500	1700	
4	500	250	500	900 + 150 = 1050	

- Available initial inventory : 100 units
- Desired final inventory : 150 units
- Regular time cost/unit : Rs.100/unit
- Overtime cost/unit : Rs.125/unit
- Subcontract cost/unit : Rs.150/unit
- Holding cost/unit/period : Rs.20/unit 10

3) "The time-honoured EOQ is not useful in MRP system." Discuss the significance of this statement. 4
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5. Write notes on the following : 3 1/2 x 4

- (a) Acceptance sampling plan and OC curve
- (b) Shop loading 99
- (c) Cost of quality 391
- (d) Kanban system 267

(a) What are the major operations objectives in production decision problem? Why traditional view of operations objectives are inadequate for managing operations?

(b) What are the differences between total factor productivity and partial factor productivity? What partial factor productivity is likely to be measured most frequently in production and operations management. 344

(c) Combining the two dimensions, customer contact and labour intensiveness, produce a matrix of service processes with four distinctive cells. Identify two services that clearly fit in these cells.

(b) Describe the general procedures for facility location planning for some kinds of facilities of your choice. 29

3. (a) Explain how layout planning may affect operating efficiency and effectiveness in a conversion process. 82

(b) Explain the role of value analysis in cost reduction programme. What are the distinctive steps to carry out a value analysis.

An assembly line must be established to include the tasks as shown in the table.

Task	Task Time (sec)	Required Predecessors
A	120	None
B	50	A
C	40	B
D	80	C, F
E	100	A
F	20	E
G	90	H
H	60	A
I	30	A
J	60	D, G, I
<u>650</u>		

(a) Construct a sequence diagram for the tasks.

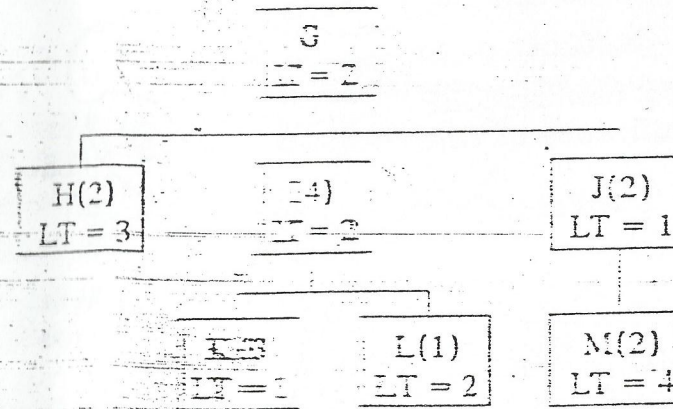
(b) To balance the line at a 120 seconds cycle time, what is the minimum number of stations required?

(c) Balance the line at 120 second cycle time

(d) What is the efficiency of the line?

5. (a) Write a brief note on job design and work measurement. 322, 328

(b) Concord has received an order for 200 units of product G to be completed in 8 weeks from now. The product structure tree is shown below. There is no stock on hand and none on order. Determine the order release for all necessary orders.



6. (a) Elaborate, with illustration, on the concept of "Materials Management as a profit centre." 193