

Y 1608

M.B.A. DEGREE EXAMINATION, AUGUST/SEPTEMBER 2008.

Second Semester

DBA 1651 -- PRODUCTION MANAGEMENT

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What are the main functions of production and operation management?
2. State the meaning of Computer Integrated Manufacturing (CIM).
3. List out four major assumptions of basic EOQ model.
4. Define automated storage/retrieval system (AS/RS).
5. How are capacity planning decision important in production and operation management?
6. State three underlying reasons that operations manager must forecast.
7. What essential benefits and limitations are associated with GANT chart?
8. List the characteristic features of critical path in a network.
9. Enumerate the need for facility layout decisions.
10. Name four areas where learning curves are useful.

PART B ... (5 × 16 = 80 marks)

11. (a) (i) Describe any two organizational and functional subsystem in operations management highlighting their goals. (8)
- (ii) Explain the important differences between manufacturing and service operations. (8)

Or

- (b) (i) What kind of operations problems does a book publishing company that runs its own printing operations face? (6)
- (ii) Explain the type of demand and process would it probably have for the above case. (10)
12. (a) (i) Discuss the benefits and limitations of MRP. (6)
- (ii) A local tire distributor expects to sell about 9600 steel belted radial tires of a certain size in the next year. The distributor operates 288 days a year
- (1) Determine economical order quantity. (4)
- (2) How many times/year does the store reorder? (3)
- (3) Determine the length of an order cycle. (3)

Or

- (b) (i) Describe briefly with an example the ABC approach to inventory control. (8)
- (ii) A company uses 4000 micro toggle switches in a year. The switches are priced as follows.

No. of switches	Price (Rs.)
1-499	0.90
500-999	0.85
1000 or more	0.82

It cost approximately Rs. 18 to prepare an order and carrying cost are 18% of purchase price/unit on an annual basis. Determine optimal order quantity and total annual cost. (8)

13. (a) (i) Differentiate between Aggregate planning and capacity planning. (6)
- (ii) Describe the four phases of design process where computer aided activity be beneficially used. (10)

Or

- (b) (i) Explain the key factors to be considered while selecting a forecasting technique. (8)
- (ii) How are forecasting methods classified? Discuss any two methods of quantitative techniques of forecasting. (8)
14. (a) (i) Distinguish between total float and independent float of a network. (5)
- (ii) A new product development involve the key activities listed in table-1.

Table-1

Activity	1-2	1-3	2-4	2-5	3-5	4-5	5-6
Duration (weeks)	8	4	6	11	9	3	1

- (1) Draw the network. (4)
- (2) Identify the critical path and determine project duration. (4)
- (3) Determine earliest and latest, start and finish time. (3)

Or

- (b) (i) Enumerate the conditions to be satisfied for the use of Johnson's rule for job shop scheduling. (5)
- (ii) A group of 6 jobs are to be processed through a two-step operation. The first involves decreasing and second involve painting processing time are shown in table-2
- (1) Determine the best sequence which will minimize the total completion time. (7)
- (2) Show the sequence in bar chart. (4)

Table-2

Job	Processing Time (hrs)	
	Work centre 1	Work centre 2
A	5	5
B	4	3
C	8	9
D	2	7
E	6	8
F	12	15

15. (a) (i) Compare the relative merits of product and process layout. (8)
- (ii) Discuss the general procedure for making facility location of an engineering industry. (8)

Or

- (b) (i) What is the objective of line balancing? (6)
- (ii) Explain the advantages and limitations of work sampling technique compared to stop watch time study. (10)
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