

8E4050

Roll No. : _____

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B.Tech. (Sem. VIII) (Main/Back) Examination, April/May - 2012
Mechanical Engg.
8ME2 Operations Management

Time : 3 Hours]

[Total Marks : 80

[Min. Passing Marks : 24

Attempt any five questions, selecting one question from each unit. All questions carry equal marks. (Schematic diagrams must be shown wherever necessary.) Any data you feel missing suitably be assumed and stated clearly. Units of quantities used/calculated must be stated clearly.

Use of following supporting material is permitted during examination.
(Mentioned in form No. 205)

1. _____ Nil _____

2. _____ Nil _____

UNIT - I

- 1 Describe the nature of operations management in the following organizations. In doing this first identify the purpose and products of the organization and then identify important operation's strategies and responsibilities.
- (i) A college library
 - (ii) A Hotel
 - (iii) A chemical industry
 - (iv) A sheet-metal industry.

16

OR

- 1 (a) What are the demand forecasting subjective approaches ? Write short and long term objectives of Demand Forecasting.
- (b) The following is the demand of split AC's in five towns during the year 2010. Fit a regression line of Y on X and estimate the demand of AC's for a city of population 50 lakhs.

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Towns	Population in lakhs(X)	Demand for AC's (γ)
A	4	40
B	6	60
C	7	50
D	10	70
E	13	90

UNIT - II

- 2 (a) Classify the following types of processes as line, batch or project :
- (i) Doctor's clinic
 - (ii) Automatic car wash
 - (iii) College curriculum
 - (iv) Electric utility
- Justify your answer with proper reasons.

8

- (b) JK Manufacturing company producing only one item, which it sells for Rs. 10.50 per unit has a fixed cost equal to Rs. 50,000 and variable cost Rs. 06.50 per unit. How many units must be produced to break-even ? How many units must be produced to procure a profit of Rs. 10,000 ? What would be the profit if 20,000 units are produced and sold ?

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OR

- 2 (a) Choose an industry and study the capacity measures used in that industry and what factors influence the acquisition and allocation of resources.
- (b) What is the difference between economies and diseconomies of scale ? Give example of each.

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UNIT - III

- 3 (a) What is manufacturing resource planning ? How it can be useful in fulfilling the objective of production planning ?

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- (b) What are the aggregate planning strategies ? What are the decision variables in aggregate planning.

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OR

- 3 (a) Are Bill of materials and product structures the same ? Explain with proper example.

6

- (b) Suppose that an organization prepare MRP on the basis of incorrect data on lead time of the components. What will be the impact of this be on actual operation ?

10

UNIT - IV

- 4 Six jobs are to be processed on two machines. The processing time for each job on each machine is given below. Find the sequence of jobs that minimizes the total elapsed time to complete the jobs. Also calculate the minimum elapsed time. The jobs are to be processed first on machine M_1 .

Machines	Jobs					
	A	B	C	D	E	F
M_1	4	8	3	6	7	5
M_2	6	3	7	2	8	4

16

OR

- 4 (a) What are the operational control issues in mass production systems ?

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- (b) What do you mean by loading of machine ? What do you achieve by performing the loading function ?

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UNIT - V

- 5 (a) "Selection of right source automatically takes care of every purchasing consideration." Comment and discuss.

8

