

**2014**

**M B A**

**2nd Semester Examination**

**PRODUCTION AND OPERATIONS MANAGEMENT**

**PAPER—MBA-205**

*Full Marks : 100*

*Time : 3 Hours*

*The figures in the right-hand margin indicate full marks.*

*Candidates are required to give their answers in their own words as far as practicable.*

*Illustrate the answers wherever necessary.*

*Write the answers to Questions of each Half in separate books.*

**( First Half )**

**(Marks : 50)**

**1. Answer any four of the following : 5×4**

- (i) What are the basic Objectives of Performance of Production and Operation Management System ?**
- (ii) Briefly state the concept of Job Type Production.**
- (iii) What is fixed position layout ?**
- (iv) Write briefly the objective of production replanning and control.**

*(Turn Over)*

- (v) The table gives the various factors considered for location decision of two alternative sites A and B. Find out which location will be most suitable choice.

Factor Rating and location Rating for location alternatives.

Factor	Factor Rating	Location Ratings	
		Location A	Location B
1. Tax Advantage	4	8	6
2. Suitability of Labour skill	3	2	3
3. Proximity to Customer	3	6	5
4. Proximity to Supplier	5	2	4
5. Adequacy of water	1	3	3
6. Facility of Transport	4	3	4

- (vi) What is Project Production ?

2. Answer any *two* of the following : 2×10

- (a) (i) Discuss the Break-Even Analysis method in Selection of Plant Location.

- (ii) Sigma Manufacturing Company desired to set up a new plant for manufacturing refrigerator with target of manufacturing 6000 refrigerator per year and selling price of each being Rs. 15,000. Sigma identified following alternative locations. In each location fixed cost and variable cost as below.

Assuming selling price is same and all the products are sold calculate the profit generated at each location and the location to generate highest return on the basis of profitability.

<i>Location</i>	<i>Fixed cost per year</i>	<i>Variable cost per unit of product</i>
	(Rs.)	(Rs.)
Aurangabad	20,00,000	6,000
Indore	16,00,000	7,000
Patna	14,00,000	6,500

4+6

(b) (i) Write briefly over the inputs of Material Requirements Planning (MRP) system.

(ii) State and explain the concepts of Master Production Schedule.

3+7

(c) (i) What is Queuing Analysis ?

(ii) State the limitations of queuing Analysis.

(iii) Zenith Manufacturing Ltd. has started three jobs that require 28, 31 and 21 days to complete

respectively. The managing director of the company has engaged three teams to execute each of the jobs.

After the lapse of 18 days, the operation managers of three jobs states that the times required to complete these jobs are 11, 14 and 8 days respectively.

Calculate the critical ratio of each job and find out which job is to be given priority.

2+2+6

**[Internal Assessment : 10]**

**(Second Half)****(Marks : 50)****3. Answer any four questions : 5×4**

- (a) Explain briefly the concept of "Lot Size Re-order Point Policy".
- (b) What are the documents that are required to be prepared for ISO 9000 QMS ?
- (c) Calculate standard time per unit from the following information :
- Units produced = 400
- Performance rating = 85%
- Idle time = 20%
- The allowance required for this type of work = 25%.
- (d) Explain briefly the steps involved in Job Safety Analysis (JSA).
- (e) Perfect Machine Tools Ltd. required 4,000 pieces of a bought out component in a year price of the item is Rs. 3 and it has been estimated to cost Rs. 60 to place an order. If the carrying cost is 25% of the value of inventory held, what would be the optimum size of each order ?
- How many orders would be placed per year ?
- (f) State the objectives of maintenance management.

4. Attempt any *two* questions : 10×2

(a) Define time study. Explain the basic steps you would take in carrying out a time study.

3+7

(b) Define TQM : State the stages in TQM implementation.

3+7

(c) In a glass factory the task of quality control was done with the help of mean ( $\bar{x}$ ) and S.D ( $\delta$ ) charts. 20 samples of 10 item each were chosen and then values  $\sum \bar{x}$  and  $\sum \delta$  were found to be 595.8 and 8.28 respectively. Determine the 3 sigma limits for mean and S.D. charts.

$$\begin{bmatrix} n & A_1 & B_3 & B_4 \\ 10 & 1.03 & 0.28 & 1.72 \end{bmatrix}$$

10

**[Internal Assessment : 10]**

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