

sem VI / Prod / CBGS / POM / NOV-16 / 20-12-16

Production & Operation Management

QP Code : 609100



( 3 Hours)

[ Total Marks : 80

- N.B. :**
- 1) Question No. 1 is Compulsory.
  - 2) Answer any three from remaining five Questions.
  - 3) Assume suitable data if required.
  - 4) Draw figure, charts, block diagram wherever required.
  - 5) All questions carry equal marks.

1. Write Short Notes on any four from the following. 20
- a) Green Manufacturing
  - b) Maynard Operations Sequence Technique
  - c) Enterprise Resource Planning
  - d) Production Planning and Control
  - e) Ergonomics: Anthropometry

2. (a) List and explain in brief various principles of Plant Layout. 10  
(b) Calculate trend-adjusted forecasts for the next 5 Quarter using the following 10  
data.

Quarter	1	2	3	4	5
Demand	213	201	198	207	220

**Initial Estimate = 208, Initial Trend = 0,  $\alpha = 0.2$ ,  $\beta = 0.1$**

3. (a) List and explain in brief charts, diagrams and symbols used in Method Study. 10  
(b) An auto industry purchases spark plugs at the rate of Rs.25 per piece. The 10  
annual consumption of spark plug is 18000 nos. If the ordering cost is Rs.  
250 per order and carrying cost is Rs.6 p.a. what would be EOQ? If the  
suppliers offer discount of 10% for order quantity of 2500 nos. per order,  
do you accept the discount offer?
4. (a) Explain in details Material Requirement Planning. 10  
(b) List and compare different types of Production systems with their 10  
characteristics.

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5. (a) What is Lean Manufacturing? List and elaborate various wastes as per Just in Time Philosophy. **10**
- (b) There are nine elements in completing a job. The precedence relationship and the time required to complete each element is given below. **10**
- (i) Balance the line If the cycle time is 12 minutes.
- (ii) Find line efficiency and Smoothness Index.

Elemental Tasks	Immediate predecessor	Duration of elements (in Minutes)
1	-	3
2	-	4
3	1	2
4	2	5
5	3	4
6	5	8
7	4	2
8	6	4
9	8	6
	Total	38 minutes

6. Write short notes on the following Terms **20**
- Capacity Planning
  - Selective Inventory Control
  - Standard Time & Normal time
  - Theory of Constraints
  - Flexible Manufacturing System