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M.Tech.(Mechanical Engineering) PT (Sem.–4)
# OPERATIONS MANAGEMENT
Subject Code : MME-508
M.Code : 38209

Time : 3 Hrs.   Max. Marks : 100

INSTRUCTION TO CANDIDATES :

1. Attempt any FIVE questions out of EIGHT questions.
2. Each question carries TWENTY marks.

1. a) Explain the need of connecting various functional strategies to make effective operations strategies. (10)

   b) Discuss the basic framework of operations strategy. (10)

2. a) Distinguish between seasonal variation and cyclical variation. (5)

   b) Suppose there is a positive trend in the demand for a product. The simple moving average method without any trend correction is used to forecast the sale of the product. Explain why the result is likely to have a bias. (5)

   c) Explain the moving average and Semi average methods of sales methods with their advantages and limitations. (10)

3. a) Explain various factors affecting the product design and development. (10)

   b) Discuss the major factors affecting the process design decisions. (10)

4. There are four hospitals in a city that require blood from one central facility. Locations of four hospitals are as follows : (20)

Existing facility (i)	Coordinates of existing facilities (i)		Material movement to new facility (W$_i$)
	X$_i$	Y$_i$	
P1	5	10	450
P2	7	8	1200
P3	4	2	300
P4	16	3	1500

Assume rectilinear distance and find the optimal location and total cost. What assumption must be made about the delivery of blood? Is it justified?

5. a) Write advantages and limitations of the plant located in urban, sub-urban and rural areas. (10)

   b) What do you mean by long range capacity planning? Discuss. (10)

6. a) Define Quality Assurance and discuss hardware and software quality assurance. (10)

   b) Define Maintenance and explain Total productive maintenance. (10)

7. a) Explain the purchasing principles and procedure. (10)

   b) A company needs 600 units per month; the procurement cost is Rs.36 per order; the cost of holding it in stock is Rs.1.20/- per unit per year. Determine the quantity that should be procured at a time to optimise the cost involved. If the consumption of the above increases to 40 per day and its actual inventory cost is Rs.0.50/unit per month, what will be the revised EOQ? Assume 300 days in one year. (10)

8. Write the short notes on the following : (7+7+6)

   a) Master scheduling

   b) Supply chain management

   c) Stores Management

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.