MBA DEGREE (INTERNATIONAL BUSINESS) II SEMESTER EXAMINATION APRIL 2013

SMI 2203 OPERATIONS MANAGEMENT

(*2012 Admission*)

Time : 3 Hours

Maximum Marks : 50

PART A

(Answer ***ALL*** questions)

(5 x 2 = 10)

1. What is technology forecasting?
2. Define productivity.
3. Distinguish between pure and mixed strategy in aggregate planning.
4. What is reorder level? Give its components.
5. Distinguish between 100% inspection and sampling.

PART B

(Answer ***ANY FIVE*** questions)

(5 x 4= 20)

6. The super snow paint shop has recorded the demand for a particular colour during the past 6 weeks as shown below:

Week	Demand in Litre
1	19
2	17
3	22
4	27
5	29
6	33

(a) Calculate a 3-week moving average for the data to forecast demand for the weeks 4, 5 and 6.
(b) Also, compute the forecasting errors for the weeks 4,5 and 6.

7. There are two sites considered for locating a plant. The details are shown below: Find the desirable site for locating the plant.

Items of cost	Cost per unit of product at various stages	
	Site 1	Site 2
Quantitative factors		
a. Raw materials and other supplies	₹ 2,50,000	₹2,30,000
b. Fuel and power	₹70,000	₹68,000
c. Water	₹15,000	₹17,000
d. Labour and supervisor	₹2,60,000	₹2,25,000
e. Land and building	₹22,00,000	₹22,19,000
f. Distribution expense	₹2,50,000	₹2,40,000
g. Freight incoming	₹2,10,000	₹2,20,000
h. Taxes	₹14,000	₹12,000
Qualitative factors		
a. Community facilities	Good	Excellent
b. Housing facilities	Very good	Poor
c. Cost of living	Normal	High
d. Community attitude	Good	Encouraging

8. Give the frame work of integrated framework of business logistics and briefly explain its components.

9. Beta industry estimates that it will sell 24000 units of its products for the forthcoming year. The ordering cost is ₹150 per order and the carrying cost per unit per year is 20% of the purchase price per unit which is ₹50.

Find : (i) Economic order size
(ii) No. of orders per year
(iii) Time between successive orders.

10. Discuss the need for quality control.

11. Explain the five steps of double sampling plan.

12. A company manufacturers Iron box. The MPS of the final assembly in is as shown below:

Month	1	2	3	4	5	6	7	8
Projected requirement	-	3500	3000	4500	-	1000	4000	5500

The initial stock on hand is 1150 units. The EOQ is 3592 units. Perform MRP calculations for the final assembly.

PART C

(Answer ***ANY TWO*** questions)

(2 x 10 = 20)

13. Give a detailed account of the approaches of TQM.

14. A firm is considering replacement of an equipment, whose first cost is ₹4,000/- and the scrap value is negligible at the end of any year. Based on experience, it was found that the maintenance cost is zero during the first year and it is ₹1,000 for the second year. It increases by ₹300/- every year thereafter. When should the equipment be replaced if $i = 12\%$.

15. Beta electronic company manufactures resistors on mass production basis. At some intermediate point of production line, 10 samples of size 100 each have been taken. Resistors within each sample were classified into good or bad. The related data are given in the following table. Construct a P-chart with 3 sigma limit and comment on the process.

Sample number	1	2	3	4	5	6	7	8	9	10
No. of defective resistors	12	15	20	14	9	20	15	10	9	8

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