M.E DEGREE EXAMINATIONS: NOV/DEC 2012

Third Semester

INDUSTRIAL ENGINEERING

IEE560**:** Inventory and Materials Management

Time: Three Hours   **Maximum Marks: 100**

Answer all the Questions:-
PART A (10 x 2 = 20 Marks)

1.   Define Inventory?

2.   What is meant by inventory control?

3.   Define Non instantaneous replenishment?

4.   What is Price break?

5.   What is reorder point?

6.   Define WIP?

7.   What is the use of Master Production Schedule (MPS)**?**

8.   What are the inputs to MRP?

9.   What are the objectives of JIT?

10. List any five principles of material handling.

PART B (5 x 16 = 80 Marks)

11. a)   Explain the types of inventories based on their classifications?

(OR)

      b)   A dealer supplies you the following information with regard to a product dealt in
                by him.

                Annual demand   10000 units
                Ordering Cost   Rs. 10 per order
                Inventory carrying cost   20% of value of inventory / year
                Price   Rs.20 / unit

                The dealer is considering the possibility of allowing some back order (stock out)

                to occur. He has estimated that the annual cost of back ordering will be 25 % of

                the value of inventory.

                (i) What should be the optimum number of units of the products he should
                      buy in one lot?
                (ii) What quantity of the product should be allowed to be back ordered if
                      any?
                (iii) Would you recommend to allow back ordering? It so what would be the

                      annual cost saving by adopting the policy of back ordering.

12. a) Find the optimal order quantity for a product when the annual demand for the product is 500 units, the cost of storage per unit 1 year is 10% of the unit cost and ordering cost / order is Rs.180. The unit costs are given below

Quantity	Unit cost
$0 \le q_1 < 500$	Rs.25
$500 \le q_2 \le 1500$	Rs. 24.80
$1500 \le q_3 < 3000$	Rs. 24.60
$3000 \le q_4$	Rs. 24

(OR)

b) What are the types of inventory models? Explain fixed order quantity model in detail?

13. a) The following information is known about a group of items. Draw ABC curve

Item No	Annual consumption in pieces	unit price in paisa
501	30,000	10
502	2,80,000	15
503	3,000	10
504	1,10,000	5
505	4,000	5
506	2,20,000	10
507	15,000	5
508	80,000	5
509	60,000	15
510	8,000	10

(OR)

b) What are the strategies used to increase the inventory turns?

14. a) Explain the inputs of MRP in details with neat diagrams?

(OR)

b) What is ERP? Explain its functions, features and modules?

15. a) Explain the elements of JIT in detail

(OR)

b) Discuss the Vendor managed inventories in present industrial environment?

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