



**INDIAN INSTITUTE OF MATERIALS MANAGEMENT**  
**PGDMM/PGDSCM &L– Two Years Course**

**COMPUTER MARKED ASSIGNMENT (CMA) For **Jan-June 2020 semester.****

**Semester 3**  
**PAPER – 14**  
**INVENTORY MANAGEMENT**

**Instructions:**

1. Answer all 50 questions ( compulsory). Each question carries 2 marks **Total : 100 Marks**
2. Read instructions given on the OMR answer sheet and answer the questions.

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1. If demand in units is 18000, relevant ordering cost for each year is Rs.150 and an order quantity is 1500 then annual relevant ordering cost would be  
(A) Rs.200  
(B) Rs.190  
(C) Rs.160  
(D) Rs.180
  2. If relevant opportunity cost of capital is Rs.2950 and relevant carrying cost of inventory is Rs.6700 then relevant incremental cost will be  
(A)Rs.9,650  
(B) Rs.2,350  
(C) Rs. 3,750  
(D) Rs. 2,750
  3. Profit forgone by capital investment in inventory rather than investment of capital to somewhere else is classified as  
(A) relevant purchase order costs  
(B) relevant inventory carrying costs  
(C) irrelevant inventory carrying costs  
(D) relevant opportunity cost of capital
  4. An example of shrinkage costs includes  
(A) incoming freight  
(B) storage costs  
(C) insurance  
(D) clerical errors
  5. Costing system which omits some of journal entries in accounting system is known as  
(A) ain-time costing  
(B) trigger costing  
(C) back flush costing  
(D) lead time costing
  6. Decision model to calculate optimal quantity of inventory to be ordered is called  
(A) efficient order quantity  
(B) economic order quantity  
(C) rational order quantity  
(D) optimized order quantity
  7. Stage in manufacturing cycle at which journal entries are made in system of accountancy is known as  
(A) chaining point  
(B) recording point  
(C) lead point  
(D) trigger point

8. If required rate of return is 12% and per unit cost of units purchased is Rs.35 then relevant opportunity cost of capital will be  
 A) Rs.6.20  
 B) Rs.7.20  
 C) Rs.4.20  
 D) Rs.5.20
9. If purchase order lead time is 35 minutes and number of units sold per time is 400 units then reorder point will be  
 A)14000 units  
 B)14500 units  
 C)15000 units  
 D)15500 units
- 10..An example of purchasing costs include  
 A) incoming freight  
 B) storage costs  
 C) insurance  
 D) spoilage
11. If an average inventory is 2000 units and annual relevant carrying cost of each unit is Rs. 5 then annual relevant carrying cost will be  
 (A) Rs.5,000  
 (B) Rs.4,500  
 (C) Rs.5,500  
 (D) Rs.6,000
12. If demand of one year is 25000 units, relevant ordering cost for each purchase order is Rs.210 and carrying cost of one unit of stock is Rs.25 then economic order quantity is  
 (A) 678 packages  
 (B) 648 packages  
 (C) 658 packages  
 (D) 668 packages
13. Activities related to coordinating, controlling and planning activities of flow of inventory are classified as  
 (A) decisional management  
 (B) throughput management  
 (C) inventory management  
 (D) manufacturing management
14. Which of the following is true for Inventory control?  
 (A) Economic order quantity has minimum total cost per order  
 (B) Inventory carrying costs increases with quantity per order  
 (C) Ordering cost decreases with lo size  
 (D) All of the above
15. The time period between placing an order its receipt in stock is known as  
 (A) Lead time  
 (B) Carrying time  
 (C) Shortage time  
 (D) Over time
- 16.Re-ordering level is calculated as  
 (A) Maximum consumption rate x Maximum re-order period  
 (B) Minimum consumption rate x Minimum re-order period  
 (C) Maximum consumption rate x Minimum re-order period  
 (D) Minimum consumption rate x Maximum re-order period

17. Sixty percent of Basket Wonders' annual sales of Rs.900,000 is on credit. If its year-end receivables turnover is 4.5, the average collection period and the year-end receivables are, respectively \_\_\_\_\_. (Assume a 365-day year.)
- (A) 81 days and Rs.120,000
  - (B) 73 days and Rs.120,000
  - (C) 73 days and Rs.108,000
  - (D) 81 days and Rs.108,000
18. If EOQ = 40 units, order costs are Rs.2 per order, and carrying costs are Rs.20 per unit, what is the usage in units?
- (A) 10 units.
  - (B) 16 units.
  - (C) 40 units.
  - (D) 80 units.
19. If EOQ = 1,000 units, order costs are Rs. 200 per order, and sales total 5,000 units, what is the carrying cost per unit?
- (A) Rs.2
  - (B) Rs.10
  - (C) Rs.100
  - (D) Rs.1000
20. Which of the following statements hold true for safety stock?
- (A) The greater the risk of running out of stock, the larger the safety stock needed.
  - (B) The lower the opportunity cost of the funds invested in inventory, the smaller the safety stock needed.
  - (C) The greater the uncertainty associated with forecasted demand, the lower the level of safety stock needed.
  - (D) The higher the profit margin per unit, the lower the safety stock necessary.
21. Which of the following relationships hold true for safety stock?
- (A) the greater the risk of running out of stock, the smaller the safety of stock.
  - (B) the larger the opportunity cost of the funds invested in inventory, the larger the safety stock.
  - (C) the greater the uncertainty associated with forecasted demand, the smaller the safety stock.
  - (D) the higher the profit margin per unit, the higher the safety stock necessary.
22. Increasing the credit period from 30 to 60 days, in response to a similar action taken by all of our competitors, would likely result in:
- (A) an increase in the average collection period.
  - (B) a decrease in bad debt losses.
  - (C) an increase in sales.
  - (D) higher profits.
23. Receiving a required inventory item at the exact time needed.
- (A) ABC
  - (B) JIT
  - (C) FOB
  - (D) PERT
24. EOQ is the order quantity that over our planning horizon.
- (A) minimizes total ordering costs
  - (B) minimizes total carrying costs
  - (C) minimizes total inventory costs
  - (D) the required safety stock

25. Which of the following is a function of inventory?  
(A) to decouple or separate parts of the production process  
(B) to provide a stock of goods that will provide a selection for customers  
(C) to take advantage of quantity discounts  
(D) to hedge against inflation
26. Which of the following would not generally be a motive for a firm to hold inventories?  
(A) to decouple or separate parts of the production process  
(B) to provide a stock of goods that will provide a selection for customers  
(C) to take advantage of quantity discounts  
(D) to hedge against inflation
27. All of the following statements about ABC analysis are true except  
(A) inventory may be categorized by measures other than rupee volume  
(B) it categorizes on-hand inventory into three groups based on annual rupee volume  
(C) it is an application of the Pareto principle  
(D) it states that all items require the same degree of control
28. ABC analysis is based upon the principle that  
(A) all items in inventory must be monitored very closely  
(B) there are usually a few critical items, and many items which are less critical  
(C) an item is critical if its usage is high  
(D) the safety stock in terms of volume should be higher for A items than for C items
29. ABC analysis divides on-hand inventory into three classes, generally based upon  
(A) item quality  
(B) unit price  
(C) the number of units on hand  
(D) annual dollar volume
30. Cycle counting  
(A) is a process by which inventory records are verified once a year  
(B) provides a measure of inventory accuracy  
(C) provides a measure of inventory turnover  
(D) assumes that all inventory records must be verified with the same frequency
31. Among the advantages of cycle counting is that it  
(A) does not need to be performed for less expensive items  
(B) does not require the detailed inventory records necessary when annual physical inventory is used  
(C) does not require highly trained people  
(D) allows more rapid identification of errors and consequent remedial action than is possible with annual physical inventory
32. The two most basic inventory questions answered by the typical inventory model are  
(A) timing and cost of orders  
(B) quantity and cost of orders  
(C) timing and quantity of orders  
(D) order quantity and service level

33. Most inventory models attempt to minimize
- (A) the likelihood of a stock out
  - (B) the number of items ordered
  - (C) total inventory based costs
  - (D) the number of orders placed
34. In the basic EOQ model, if the cost of placing an order doubles, and all other values remain constant, the EOQ will
- (A) increase by about 41%
  - (B) increase by 100%
  - (C) increase by 200%
  - (D) either increase or decrease
35. In the basic EOQ model, if  $D = 6,000$  per year,  $S = \text{Rs.}100$ ,  $H = \text{Rs.}5$  per unit per month, the Economic Order Quantity is approximately
- (A) 527
  - (B) 100
  - (C) 490
  - (D) 142
36. Which of the following statements about the basic EOQ model is true?
- (A) If the ordering cost were to double, the EOQ would fall.
  - (B) If annual demand were to double, the EOQ would increase.
  - (C) If the carrying cost were to increase, the EOQ would fall.
  - (D) if there are stock outs EOQ will not meet the demand.
37. A product whose EOQ is 40 experiences a decrease in ordering cost from Rs 90 per order to Rs 10. The revised EOQ is
- (A) three times as large
  - (B) one-third as large
  - (C) nine times as large
  - (D) one-ninth as large
38. A product whose EOQ is 400 experiences a 50% increase in demand. The new EOQ is
- (A) unchanged
  - (B) increased by less than 50%
  - (C) increased by 50%
  - (D) increased by more than 50%
39. For a certain item, the cost-minimizing order quantity obtained with the basic EOQ model was 200 units and the total annual inventory cost was Rs 600. The inventory carrying cost per unit per year for this item is
- (A) Rs 1.50
  - (B) Rs 3.00
  - (C) Rs 2.00
  - (D) Rs 6.00
40. A product has demand of 4,000 units per year. Ordering cost is Rs 20 and holding cost is Rs 4 per unit per year. The EOQ model is appropriate. The cost-minimizing solution for this product will cost \_\_\_\_\_ per year in total annual inventory costs.
- (A) Rs 400
  - (B) Rs 800
  - (C) Rs 1,200
  - (D) Rs 16,000

41. The EOQ model with quantity discounts attempts to determine
- (A) what is the lowest amount of inventory necessary to satisfy a certain service level
  - (B) what is the lowest purchasing price
  - (C) whether to use fixed-quantity or fixed period order policy
  - (D) how many units should be ordered
42. An inventory decision rule states "when the inventory level goes down to 14 gearboxes, 100 gearboxes will be ordered." Which of the following statements is true?
- (A) 100 is the reorder point, and 14 is the order quantity.
  - (B) 14 is the reorder point, and 100 is the order quantity.
  - (C) The number 100 is a function of demand during lead time.
  - (D) 14 is the safety stock, and 100 is the reorder point.
43. Which of the following statements regarding the Production Order Quantity model is true?
- (A) It applies only to items produced in the firm's own production departments.
  - (B) It relaxes the assumption that all the order quantity is received at one time.
  - (C) It relaxes the assumption that the demand rate is constant.
  - (D) It minimizes the total production costs.
44. The Production Order Quantity model
- (A) relaxes the assumption of known and constant demand
  - (B) uses Ordering Cost, not Setup Cost, in its formula
  - (C) is appropriate when units are sold/used as they are produced
  - (D) results in larger average inventory than an equivalent EOQ model
45. When quantity discounts are allowed, the cost-minimizing order quantity
- (A) minimizes the sum of holding and ordering costs
  - (B) minimizes the unit purchase price
  - (C) may be a quantity below that at which one qualifies for that price
  - (D) minimizes the sum of holding, ordering, and product costs
46. A specific product has expected demand during lead time of 100 units, with a standard deviation of 25 units. What safety stock (approximately) provides a 95% service level?
- (A) 41
  - (B) 55
  - (C) 133
  - (D) 140
47. Demand for dishwasher water pumps is 8 per day. The standard deviation of demand is 3 per day, and the order lead time is four days. The service level is 95%. What should the reorder point be?
- (A) about 18
  - (B) about 24
  - (C) about 32
  - (D) about 33
48. The purpose of safety stock is to
- (A) replace failed units with good ones
  - (B) eliminate the possibility of a stockout
  - (C) eliminate the likelihood of a stockout due to erroneous inventory tally
  - (D) control the likelihood of a stockout due to the variability of demand during lead time
49. The proper quantity of safety stock is typically determined by
- (A) minimizing an expected stockout cost
  - (B) carrying sufficient safety stock so as to eliminate all stockouts
  - (C) meeting 95% of all demands
  - (D) setting the level of safety stock so that a given stockout risk is not exceeded

50. If demand is not uniform and constant, then stockout risks can be controlled by
- (A) increasing the EOQ
  - (B) placing an extra order
  - (C) raising the selling price to reduce demand
  - (D) adding safety stock

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