



**ENGINEERING & MANAGEMENT EXAMINATIONS, JUNE - 2009**  
**MATERIALS MANAGEMENT**  
**SEMESTER - 4**



Time : 3 Hours ]

[ Full Marks : 70

**GROUP - A**

**( Multiple Choice Type Questions )**

1. Choose the correct alternatives for any *ten* of the following : 10 × 1 = 10
- i) The system of purchasing from one's customer preferred to others is known as
    - a) Forward Buying
    - b) Tender Buying
    - c) Reciprocal Buying
    - d) Blanket Order.
  
  - ii) The classification of inventory based on annual consumption and annual value is known as
    - a) ABC classification
    - b) VED classification
    - c) PSN classification
    - d) HML classification.
  
  - iii) Fixed order quantity system of inventory management is also known as
    - a) Max-min system
    - b) Q-system
    - c) re-order point system
    - d) all of these.
  
  - iv) The document prepared on receipt of materials in store is known as
    - a) MRN
    - b) GRN
    - c) Challan
    - d) Bill of materials.
  
  - v) Which of the following cost is not taken into consideration for Make or Buy Decision ?
    - a) Fixed Cost
    - b) Variable cost
    - c) Semi-variable cost
    - d) None of these.



- vi) JIT contributed to the
- a) reduced inventory and WIP      b) reduced suppliers and vendors
- c) reduced manpower planning      d) reduced information flows.
- vii) The time interval between placing an order and the actual replenishment is known as
- a) delivery time      b) order time
- c) lead time      d) none of these.
- viii) The key benefit of codification is
- a) to prevent duplication      b) to have accurate identification
- c) both of these      d) none of these.
- ix) A device to move materials along a definite path and used for moving bulk materials over long distances is known as
- a) fork-lift trucks      b) elevator
- c) hoists      d) conveyor.
- x) Work-in-progress is a
- a) procedure      b) method
- c) value addition process      d) none of these.
- xi) The type of purchasing where the purchaser tries to protect himself by entering into 2 transactions — a purchase and a sale contacts in two markets whose prices fluctuate is known as
- a) hedging      b) speculative buying
- c) forward buying      d) blanket order.
- xii) Criteria of VED analysis is
- a) unit price of the materials      b) annual value of consumption
- c) critical nature of the item      d) none of these.



## GROUP – B

## ( Short Answer Type Questions )

Answer any *three* of the following questions.

3 × 5 = 15



2. Medical Aids Co. manufactures a special product A. The following particulars were collected for the year 2008 :

- |    |                               |   |                   |
|----|-------------------------------|---|-------------------|
| a) | Monthly demand of A           | : | 1000 units        |
| b) | Cost of placing an order      | : | Rs. 100           |
| c) | Annual carrying cost per unit | : | Rs. 15            |
| d) | Normal usage                  | : | 50 units per week |
| e) | Minimum usage                 | : | 25 units per week |
| f) | Maximum usage                 | : | 75 units per week |
| g) | Re-order period               | : | 4 to 6 weeks      |

Compute from the above :

- |      |                      |     |                   |
|------|----------------------|-----|-------------------|
| i)   | Re-order level       | ii) | Re-order quantity |
| iii) | Minimum level        | iv) | Maximum level     |
| v)   | Average stock level. |     |                   |

5 × 1

3. What is the  $Q$ -system of inventory ? In a  $Q$ -system of inventory what is called to be ROP ? How is it calculated ?

$$1 + 1\frac{1}{2} + 2\frac{1}{2}$$

4. Differentiate between forward buying and speculative buying. 5

5. What is Economic Order Quantity ? How is it calculated ? 5

6. Define the terms 'Obsolescence', 'Surplus', 'Defective and Scrap' in storage control. Briefly state their disposal technique. 5

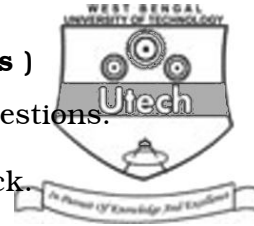
7. What are the benefits of scientific store-keeping ? 5



**GROUP – C**

**( Long Answer Type Questions )**

Answer any *three* of the following questions.



3 × 15 = 45

8. a) Describe the various methods of valuation of stock.

b) Prepare a ABC plan from the following data of 'Metro Works'.

<b>Item</b>	1	2	3	4	5	6	7
<b>Unit</b>	1,800	500	1,500	1,200	2,000	1,000	2,000
<b>Cost p.u.</b>	33.5	300	10	34	5	200	12.5

8 + 7

9. a) Briefly discuss the various methods of purchasing practiced by various organizations.

b) Discuss the purchase procedure of materials department with the help of a diagram.

8 + 7

10. a) The following information is available in respect of material X & Co. Ltd :

Re-order quantity 12,000 unit, Lead time 4 to 8 weeks, Maximum consumption 4,000 units per week, Normal consumption 3,000 units per week, Maximum consumption 1,550 unit per week.

Ascertain :

- i) Re-order level
- ii) Minimum stock level
- iii) Maximum stock level.

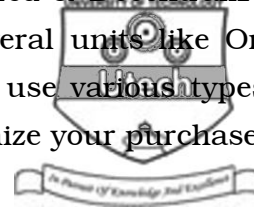
b) Product A consists of three B types subassemblies and one C type sub-assembly. The subassembly B consists of one D, one E subassemblies and one F. The subassembly C consists of a G and an F. The subassembly E consists of a D and a K.

- i) Prepare a product tree.
- ii) Prepare the number of each subassembly / components required to produce fifty units of item A.

8 + 7



11. Discuss the advantages and disadvantages of Centralized & Decentralized Purchasing. Suppose you are working in a steel plant. It has several units like Ore mines, Coal mines, very big township, hospital etc. All such units use various types of materials. Many items are common. Explain how you would organize your purchase department.



5 + 10

12. a) What is materials requirement planning ?  
 b) Discuss the inputs, processing and outputs of MRP system.  
 c) Classify the following items into A, B & C category.

<b>Sl. No.</b>	<b>Items</b>	<b>Annual Usage</b>	<b>Price/Unit ( Rs. )</b>
1.	Graphite	4,000 kg	10 per kg
2.	Toluene	800 kg	5 per kg
3.	Wax	600 kg	10 per kg
4.	Cap	2,000 kg	6 per kg
5.	Drums	1,000 nos.	18 each
6.	Oil	150 kg	9 per kg
7.	Carton	3,000 nos.	0.2 each
8.	Powder	200 kg	0.5 per kg
9.	Spirit	400 kg	1 per kg
10.	Hydrochloric acid	2,500 kg	6 per kg
11.	Carbon	700 kg	15 per kg
12.	Nail	5,000 nos.	0.10 each

4 + 6 + 5

13. State the key elements of JIT System. Explain the salient features of JIT system. Explain the differences between JIT & MRP Approach. What are the advantages of JIT system ?

5 + 2 + 5 + 3

14. What is vendor rating and evaluation ? Discuss the methods of vendor rating. 5 + 10

END