



MATERIAL COST CONTROL, STOCK VALUATION AND STOCK CONTROL

MATERIAL COST CONTROL

Q. 1. RST Limited has received an offer of quantity discount on its order of materials as under :

Price per tone	Tones number
₹ 9,600	Less than 50
₹ 9,360	50 and less than 100
₹ 9,120	100 and less than 200
₹ 8,880	200 and less than 300
₹ 8,640	300 and above

The annual requirement for the material is 500 tonnes. The ordering cost per order is ₹ 12,500 and the stock holding cost is estimated at 25% of the material cost per annum.

Required :

- (i) Compute the most economical purchase level.
- (ii) Compute EOQ if there are no quantity discounts and the price per tonne is ₹ 10,500.

Q. 2. A company manufactures 5000 units of a product per month. The cost of placing an order is ₹ 100. The purchase price of the raw material is ₹ 10 per kg. The re-order period is 4 to 8 weeks. The consumption of raw materials varies from 100 kg. to 450 kg. per week, the average consumption being 275 kg. The carrying cost of inventory is 20% per annum.

You are required to calculate

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

Q. 3. The Complete Gardener is deciding on the economic order quantity for two brands of lawn fertilizer : Super Grow and Nature's Own. The following information is collected.

	Fertilizer	
	Super Grow	Nature's Own
Annual Demand	2,000 Bags	1,280 Bags
Relevant ordering cost per purchase order	₹ 1,200	₹ 1,400
Annual relevant carrying cost per bag	₹ 480	₹ 560

Required :

- (i) Compute EOQ for Super Grow and Nature's Own.
- (ii) For the EOQ, what is the sum of the total annual relevant ordering costs and total annual relevant carrying costs for Super Grow and Nature's Own?
- (iii) For the EOQ, Compute the number of deliveries per year for Super Grow and Nature's own.

Q. 4. M/s Tubes Ltd., are the manufactures of picture tubes for T.V. The following are the details of their operation during 1997 :

Average monthly market demand	2,000 Tubes
Ordering cost	₹ 100 per order
Inventory carrying cost	20% per annum
Cost of tubes	₹ 500 per tube
Normal usage	100 tubes per week
Minimum usage	50 tubes per week
Maximum usage	200 tubes per week
Lead time to supply	6 - 8 weeks

Compute from the above :

1. Economic Order Quantity. If the supplier is willing to supply quarterly 1,500 units at a discount of 5%, is it worth accepting?
2. Maximum level of stock
3. Minimum level of stock
4. Re-order level

Q. 5. SK Enterprise manufactures a special product "ZE". The following particulars were collected for the year 2004 :

Annual consumption	12,000 units (360 days)
Cost per unit	Re. 1
Ordering cost	₹12 per order
Inventory carrying cost	24%
Normal lead time	15 days
Safety stock	30 days consumption

Required :

- (i) Re-order quantity
- (ii) Re-order level
- (iii) What should be the inventory level (ideally) immediately before the material order is received?

STOCK VALUATION AND STOCK CONTROL

Q. 6. The following information is extracted from the Stores Ledger :

Material X

Opening Stock	Nil
Purchases :	
Jan. 1	100 @ Re.1 per unit
Jan. 20	100 @ ₹ 2 per unit
Issues :	
Jan. 22	60 for job W 16
Jan. 23	60 for job W 17

Complete the receipts and issue valuation by V adopting the First - in First-out, Last - in First Out and the Weighted Average Method. Tabulate the values allocated to Job W 16 Job W17 and the closing stock under the method aforesaid and discuss from the different points of view which method you would prefer.

Q. 7. A Manufacture of Surat purchased three Chemicals A, B and C from Bombay. The invoice gave the following information :

	₹
Chemical A : 3,000 kg @ ₹ 4.20 per kg	12,600
Chemical B : 5,000 kg @ ₹ 3.80 per kg	19,000
Chemical C : 2,000 kg @ ₹ 4.75 per kg	9,500
Sales Tax	2,055
Railway Freight	1,000
Total Cost	44,155

A shortage of 200 kg in Chemical A of 280 kg in Chemical B and of 100 kg in Chemical C was noticed due to breakages. At Surat, the manufacture paid Oct. duty @ Re.0.10 per kg. He also paid Cartage ₹22 for Chemical A ₹63.12 for Chemical B and ₹31.80 for Chemical assuming a provision of 5% towards further deterioration.

Q. 8. Raw materials 'X' costing ₹ 100 per kilogram and 'Y' costing ₹ 60 per kilogram are mixed in equal proportions for making product 'A'. The loss of material in processing works out to 25% of the output. The production expenses are allocated at 50% of direct material cost.

The end product is priced with a margin of $33\frac{1}{3}\%$ over the total cost. Material 'Y' is not easily available and substitute raw material 'Z' has been found for 'Y' costing ₹ 50 per kilogram. It is required to keep the proportion of this substitute material in the mixture as low as possible and at the same time maintain the selling price of the end product at existing levels and ensure the same quantum of profit as at present.

You are required :

To compute what should be the ratio of mix of the raw materials X and Z.

Q. 9. AT Ltd. furnishes the following stores transactions for September, 1982.

1.9.82	Opening balance	25 Units value ₹ 162.50
4.9.82	Issues Req. No. 85	8 Units
6.9.82	Receipts from B & Co. GRN No. 26	50 Units @ ₹ 5.75 per unit
7.9.82	Issues Req. No. 97	12 Units
10.9.82	Returns to B & Co.	10 Units
12.9.82	Issues Req. No. 108	15 Units
13.9.82	Issues Req. No. 110	20 Units
15.9.82	Receipts from M & Co. GRN No. 33	25 Units @ ₹ 6.10 per unit
17.9.82	Issues Req. No. 121	10 Units
19.9.82	Received replacement from B & Co. GRN No. 38	10 Units
20.9.82	Returned from department material of M & Co. MRR No. 4	5 Units
22.9.82	Transfer from Job 182 to Job 187 in the dept. MTR 6	5 Units
26.9.82	Issues Req. No. 146	10 Units
29.9.82	Transfer from Dept. "A" to Dept. "B" MTR 10	5 Units
30.9.82	Shortage in stock taking	2 Units

Write up the priced stores ledger on FIFO method and discuss how would you treat the shortage in stock taking.

Q. 10. A company has the option to procure a particular material from two sources :

Source I assures that defectives will not be more than 2% of supplied quantity.

Source II does not give any assurance, but on the basis of past experience of supplies received from it, it is observed that defective percentage is 2.8%.

The material is supplied in lots of 1,000 units. Source II supplies the lot at a price, which is lower by ₹100 as compared to Source I. The defective units of material can be rectified for use at a cost of ₹5 per unit.

You are required to find out which of the two sources is more economical.

Q. 11. Megatron Ltd. has entered into a collaboration with Kozuki Japan for import of T.V kit in completely Knocked Down (CKD) condition. The terms of agreement are as under :

- (a) Megatron will import 40% items by value (in terms of FOB price of complete T.V Set) and balance 60% will be locally manufactured/purchased.
- (b) For all non-standard items which are to be procured locally, Kozuki will provide drawings.
- (c) Megatron will pay a lump sum of ₹ 30 lacs for supply of technical know-how and drawings
- (d) Megatron will also pay a royalty at 10% of selling price fixed by it for sale in the local market less landed cost of imported kit less cost of standard items purchased locally.
- (e) Megatron will send a six monthly return to Kozuki showing No. of sets sold, sale value, standard component costs, landed cost of CKD etc.

Considering the above terms and additional given below, calculate the selling price that should be fixed for local sales so as to get 20% profit on selling price. (Round off the answer to nearest rupee).

- (i) Agreement expires on production of 3 lacs sets.
- (ii) FOB price quoted is 1,20,000 yen.
- (iii) Insurance and freight ₹ 200 per CKD.
- (iv) Custom duty at 140% of CIF price. However, effective rate of duty is only 40% as per government notification.
- (v) Estimated cost of 60% items to be manufactured/procured locally will be 1.5 times as compared to cost of manufacture by Kozuki. The quoted price by Kozuki contains 20% margin on cost.
- (vi) The ratio of standard and non-standard part is 2 : 3 (in terms of rupee value)
- (vii) Assembling and other overhead costs will be ₹ 1000 per set.
- (viii) Exchange rate is ₹ 5 per 100 yen.