PROBLEMS & SOLUTION

(A) Stock level

PROBLEM 01

Normal weekly requirement	1400 kg
Maximum weekly requirement	2000 kg
Maximum weekly requirement	1000 kg
Time to get fresh supplies	1 to 3 weeks
Ordering quantity	3,000 kg

From the above data, determine:
(a) Re-order level.
(b) Maximum level.
(c) Minimum level.

Solution:

(a) Re-order level = Maximum consumption × Maximum time
= 2000 × 3 = 6000 kg.

(b) Maximum level = (Re-order level + Re-order quantity) – (Minimum consumption × Minimum time)
= (6000 + 3000) – (1000 × 1) = 8000 kg.

(c) Minimum level = Re-order level – (Normal consumption × Average time)
= 6000 – (1400 × 2) = 3200 kg.

$\left(\text{Average time} = \frac{1+3}{2} = 2 \text{ weeks.}\right)$

[D. U. '81]

PROBLEM 02

Two components, A and B are used as follows :

Normal usage	200 per week each.
Minimum usage	100 per week each.
Maximum usage	300 per week each.
Re-order quantity	A : 1,200 Units B : 2,000 Units
Reorder period	A : 4 – 6 weeks. B : 2 – 4 weeks.

Calculate for each component:
(i) Re-order level
(ii) Minimum level.
(iii) Maximum level.
(iv) Average stock level.

Solution:

(i) Re-order level = Maximum usage × Maximum time.
A = 300 × 6 = 1800 units
B = 300 × 4 = 1200 units

(ii) Minimum level = Re-order level – (Normal usage × Normal time)
A = 1,800 – (200 × 5) = 800 units.
B = 1,200 – (200 × 3) = 600 units.

(iii) Maximum level = (Re-order level + Re-order quantity) – (Minimum usage × Minimum time)
A = (1,800 + 1200) – (100 × 4) = 2600 Units
B = (1,200 + 2000) – (100 × 2) = 3000 Units.

PROBLEM 45 **[NU BBA (Hon's) 3rd 2012, D.U. 3rd 2016:BBS (Degree) 3rd 2016]**

A Company follows FIFO system in ascertaining the cost of raw materials issued. The following particulars are available in respect of raw materials during the month of May:

May 1 Balance 800 kg @ Tk. 6.50

Purchase during the month:

May 7 600 kg @ Tk 6.80
May 18 500 kg @ Tk. 7.20
May 26 600 kg @ Tk. 6.90

The same quantity of raw materials was issued at the end of each week. The first issue during the month was made on the May 2. The stock on hand at the end of the month was 500 kg. There was no loss of stock. Prepare the store ledger account.

Solution:

Workings:

(a) Total issuing date in May:

May = 2
May = 9
May = 16
May = 23
May = 30

Total Number of issues in may = 5 times.

(b) Total material Issue in May:

Opening Stock = 800 kg
Total Purchase = 1700 kg
= 2,500 kg
Less: Closing = 500 kg
Total Issue = **2,000** kg
Issue in each Date = $\frac{2,000}{5}$
= 400 units

Store Ledger
(FIFO)

Date	Account title	Receipts			Issue			Balance		
		Unit	Rate	Tk.	Unit	Rate	Tk.	Unit	Rate	Tk.
May-1	Opening balance							800	6.50	5,200
May-2	Issue				400	6.50	2,600	400	6.50	2,600
May-7	Purchase	600	6.80	4,080				400	6.50	2,600
								600	6.80	4,080
May-9	Issue				400	6.50	2,600	600	6.80	4,080
May-16	Issue				400	6.80	2,720	200	6.80	1,360
May -18	Purchase	500	7.20	3,600				200	6.80	1,360
								500	7.20	3,600
May-23	Issue				200	6.80	1,360			
					200	7.20	1,440	300	7.20	2,160
May-26	Purchase	600	6.90	4,140				300	7.20	2,160
								600	6.90	4,140
May-30	Issue				300	7.20	2,160			
					100	6.90	690	500	6.90	3,450
Balance								**500**		**3,450**