* Miller and Orr Model

$$RP = \sqrt[3]{\frac{3 \times b \times \sigma^2}{4I}} + LL$$

$$UL = 3RP - 2LL$$

RP = Return Point

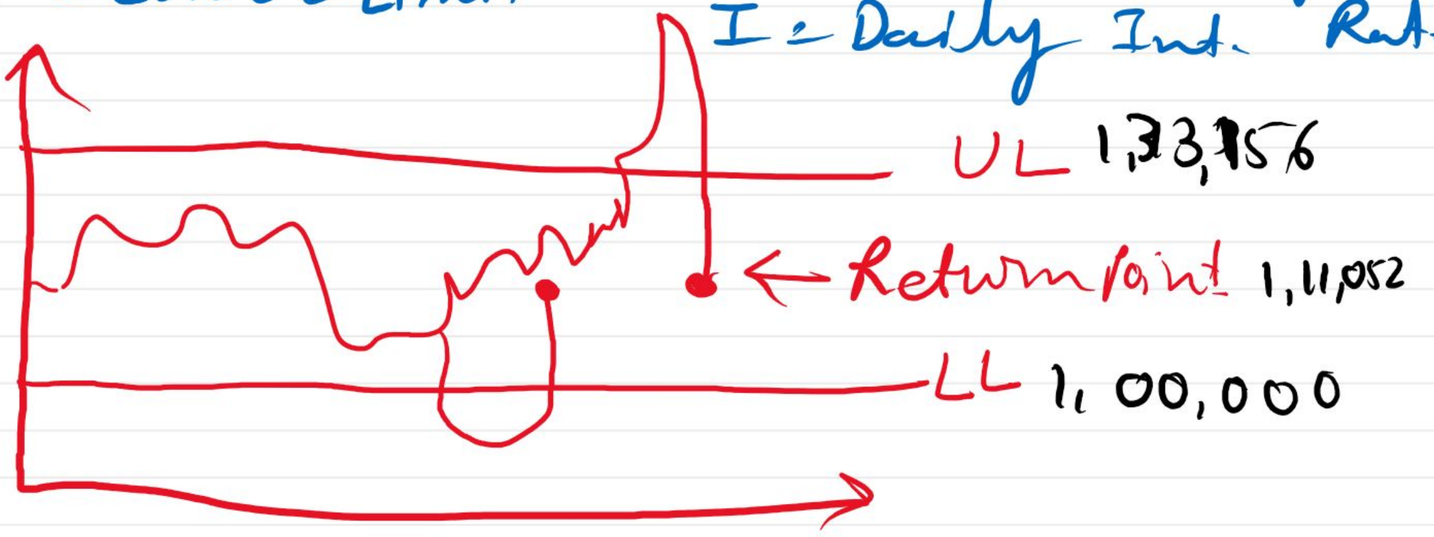
UL = Upper Limit

LL = Lower Limit

b = Fixed Conversion Cost

σ^2 = Daily Variance of change in cash Bal.

I = Daily Int. Rate



5. LL = 1,00,000

σ = 6,000

b = 5,000

I = 0.10

$$RP = \sqrt[3]{\frac{3 \times 5000 \times 6000^2}{4 \times 0.1}} + 1,00,000$$

$$= 11,052.09 + 1,00,000$$

$$RP = \boxed{1,11,052.09}$$

$$UL = 3RP - 2LL$$

$$= (3 \times 1,11,052.09) - (2 \times 1,00,000)$$

$$= 3,33,156.28 - 2,00,000$$

$$= \boxed{1,33,156.28}$$

CASH AND LIQUIDITY MANAGEMENT

* Cash Budget (Receipts and Payments Method.)

Particulars	Amounts Jan.	Feb.	Mar.
Op. Cash Bal.	✓	✓	✓
Cash Receipts			
Sales	✓	✓	✓
Commission Recd.	✓		
Sale of Asset	–	✓	–
Interest Recd.			✓
Total Receipts.			
Cash Payments			
Purchases	✓		
Rent Paid		✓	
Salaries Paid			
Wages Paid			✓
Bills Paid			
Int – Paid			
Total Payment.			
Receipts — Payments	✓	✓	
— Minimum Bal. Reqd.	(✓)	(✓)	
Closing Bal.	✓		

Que. 1

W.N. 1 Sales

	Feb.	March.	Apr.	May	June	July	Aug.
Cash sales (20%)	90,000	1,00,000	60,000	84,000	70,000		
Cash Disc. (2%)	(1,800)	2,000	(1,200)	(1,680)	(1,400)		
Net cash sales	88,200	98,000	58,800	82,320	68,600		
Credit sales 80% CRecd. after 2 months	—	—	3,60,000	4,00,000	2,40,000	3,36,000	2,80,000
Cash Receipts (sales)	88,200	98,000	4,18,800	4,82,320	3,08,600	3,36,000	2,80,000

* Cash Budget for xyz Ltd. for the Quarter ending on 30/6/21

Particulars	April	May	June
Op. Bal.	25,000	73,800	1,63,120
Add Cash Receipts (W.N.-1) Sales	4,18,800	4,82,320	3,08,600
Receipts from Sale of Equp.	1,00,000		
	5,43,800	5,56,120	4,71,720
Less Payments Purchases			
80% Next Month	2,80,000 (Mar)	2,00,000	3,20,000
20% After 2 months	64,000 (Feb)	70,000	50,000
Wages 75% Same Month	24,000	30,000	24,000
25% Next Month	12,000 (March)	8,000	10,000
Other Exps. (Next Month)	30,000	25,000	42,000
Income Tax paid			50,000
Net Cash Flow	1,33,800	2,23,120	−24,280
Min. Bal. Req.	60,000	60,000	
Surplus / Deficit	73,800	1,63,120	

* Boumal Model

$$C = \sqrt{\frac{2 \times b \times T}{I}}$$

C = Amt. of Mkt. Sec converted into cash per order

T = Amount of cash flow Required.

I = Rate of Interest

b = Conversion cost of securities into cash.

Q.3 $T = 22,50,00,000$

$I = 0.15$

$b = 9,000$

$C = ?$

$$C = \sqrt{\frac{2 \times b \times T}{I}}$$

$$= \sqrt{\frac{2 \times 9000 \times 22,50,00,000}{0.15}}$$

$= 51,96,152.42$