Date: April 2021

VIRTUAL COACHING CLASSES
ORGANIZED BY BOS, ICAI

INTERMEDIATE LEVEL
PAPER 8A : FINANCIAL MANAGEMENT

WORKING CAPITAL

Faculty: CA Manobhav Verma

Working Capital

- Working Capital (WC) = Current Assets (CA) – Current Liabilities (CL)

Current Assets	Current Liabilities
• Expected to be realized/consumed/sold within normal operating cycle or one year • Inventory, Receivables, Cash & Cash Equivalents, Prepaid expenses	• Expected to be settled in normal operating cycle or one year • Trade Payables, Outstanding Expenses

- On the basis of value WC can be defined as gross (CA) or net (CA-CL). On the basis of time it can be defined as permanent or temporary (due to fluctuation in sales volume)
- WC should be maintained at an optimum level (GR: current ratio of 2 and quick ratio of 1 preferred but depends on several factors). Over investment will carry opportunity cost or loss of inventory and Under investment may lead to solvency issues and also loss of sales

Determinants of Working Capital

- Working Capital Management involves maintaining adequate / optimum WC and its Financing

Factors to be considered for planning WC Requirements:

1) Nature of Business (example: restaurant vs pharmacy)
2) Type of Products – durable or perishable
3) Operating Efficiency
4) Inventory techniques, Receivables Policy & Cash holding requirements
5) Price level changes
6) Short term financing options
7) Market & Demand conditions – demand > production then less inventory
8) Manufacturing Policies – steady production or seasonal

Scope of WC Management

- Working Capital Management involves 3 Es : Economy in financing, Efficiency in utilisation & Effectiveness in achieving the intended objectives.
- Scope of WC Management considers : a) Liquidity & Profitability and b) Investment & Financing

a) Trade off between Components of WC – Increasing Profitability without affecting Liquidity

Component	Advantages of Higher Level (Profitability)	Trade off (between profitability & liquidity)	Advantages of Lower Level (Liquidity)
Inventory	Fewer stock-outs	Optimum Level – EOQ, JIT	Requires less capital but probable stock-out & loss of reputation.
Receivables	Higher Credit period – More customers > Sales	Evaluate Credit Policy – use debt management services - factoring	Lesser credit period – more cash sales – fails to boost revenue
Cash & Cash Equivalents	Payables are honored in time > improves goodwill	Cash budgets & other techniques	Investment in other avenues
Prepayments	Profitable in Inflation	Cost-benefit analysis to be done	Improves / Maintains liquidity
Payables	Funds can be invested	Evaluate credit policy pros & cost	Payables are honored in time > improves goodwill

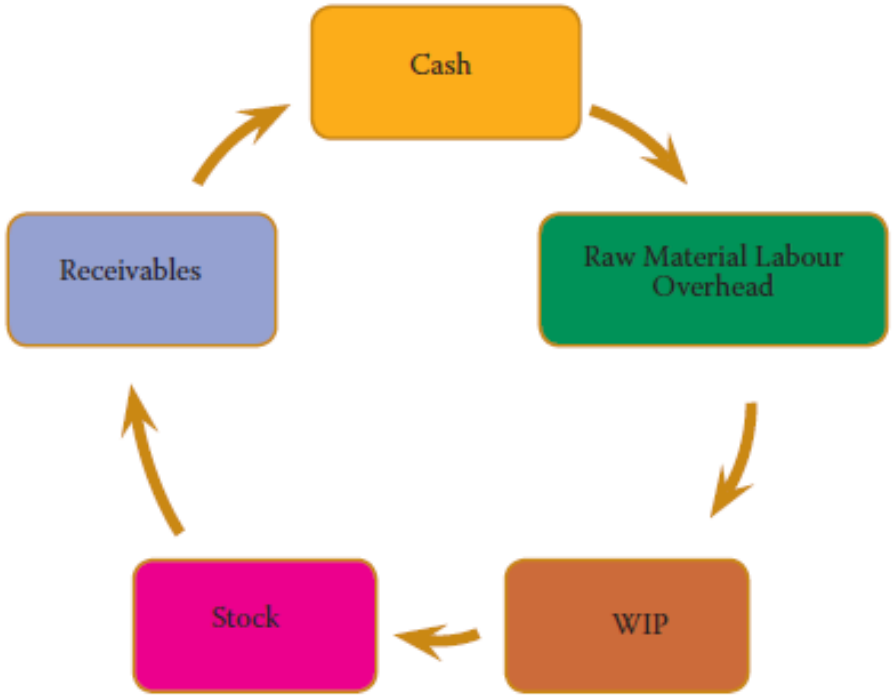
Scope of WC Management

b) Investing & Financing – Investment in WC relates to "How Much" and Financing relates to "Where from"

"How Much" i.e. optimum WC depends on factors already discussed and organizational policy

Aggressive	Moderate	Conservative
Lower levels: less inventory, strict credit policy, less cash Lower CA/FA ratio	Balances risk & Return, Efficient use of funds	Higher Levels: more inventory & cash, liberal credit policies Higher CA/FA ratio
+ive – Less investment - ive – Less Growth	Mid way approach	+ ive – growth in sales value & goodwill - Ive – higher risk of bad debts, opportunity loss

Operating or Working Capital Cycle



Longer the Operating cycle, more working capital is required & vice versa

Operating Cycle = R + W + F + D – C

Where,

R = Raw material storage period
W = Work-in-progress holding period
F = Finished goods storage period
D = Receivables (Debtors) collection period.
C = Credit period allowed by suppliers (Creditors).

M/s Dhoni & Co holds raw materials on an average for 45 days, it gets credit from the supplier for 30 days, production process needs 25 days, finished goods are held for 15 days and 45 days credit is extended to debtors. Thus, OC = 100
R (45) + W (25) + F (15) + D(45) – C (30) = 100 Days

Operating or Working Capital Cycle

The various components of Operating Cycle may be calculated as shown below:

(1)	Raw Material Storage Period	$= \frac{\text{Average stock of raw material}}{\text{Average Cost of Raw Material Consumption per day}}$
(2)	Work-in-Progress holding period	$= \frac{\text{Average Work-in-progress inventory}}{\text{Average Cost of Production per day}}$
(3)	Finished Goods storage period	$= \frac{\text{Average stock of finished goods}}{\text{Average Cost of Goods Sold per day}}$
(4)	Receivables (Debtors) collection period	$= \frac{\text{Average Receivables}}{\text{Average Credit Sales per day}}$
(5)	Credit period allowed by suppliers (Creditors)	$= \frac{\text{Average Payables}}{\text{Average Credit Purchases per day}}$

Illustration

Calculate Net Operating Cycle period and Number of Operating Cycles in a year from below information (Assume 360 days in a year):

S.No.	Details	Amount (in ₹)
1	Raw material inventory consumed during the year	12,00,000
2	Average stock of raw material	1,00,000
3	Cost of production for the year	10,00,000
4	Average work-in-progress inventory	50,000
5	Cost of goods sold during the year	16,00,000
6	Average Finished Goods Inventory	80,000
7	Average collection period from debtors	45 Days
8	Average credit period availed	30 Days

Solution

Calculation of Net Operating Cycle

R – Raw Material Storage Period = Avg stock of RM / RM consumed per day = 100,000 / (12,00,000 / 360) = 30 days

W – WIP holding period = Avg WIP inventory / Cost of Production per day = 50,000 / (10,00,000 / 360) = 18 Days

F – Finished goods storage period = Avg FG stock / COGS per day = 80,000 / (16,00,000 / 360) = 18 Days

D – Debtors collection period given = 45 Days

C – Credit period given by suppliers = 30 days

Thus, Net Operating Cycle = R + W + F + D – C = 30 + 18 + 18 + 45 – 30 = 81 Days

Number of Operating Cycles in a year = 360 / 81 = 4.44

Components for WC (CA – CL)

(i) Raw Materials Inventory:

$$\frac{\text{Estimated Production (units)}}{\text{12 months / 365 days *}} \times \text{Estimated Cost per unit} \times \text{Average raw material storage period}$$

(ii) Work-in-Progress Inventory:

$$\frac{\text{Estimated Production (units)}}{\text{12 months / 365 days *}} \times \text{Estimated WIP cost per unit} \times \text{Average W-I-P holding period}$$

(iii) Finished Goods:

$$\frac{\text{Estimated Production (units)}}{\text{12 months / 365 days *}} \times \text{Estimated Cost of production per unit} \times \text{Average storage period}$$

(iv) Receivables (Debtors):

$$\frac{\text{Estimated Credit Sales unit}}{\text{12 months / 365 days *}} \times \text{Cost of sales (excluding depreciation) per unit} \times \text{Average collection period}$$

(v) Cash and Cash equivalents: Minimum desired Cash and Bank balance to be maintained

(vi) Trade Payables (Creditors):

$$\frac{\text{Estimated credit purchase}}{\text{12 months / 365 days *}} \times \text{Credit period allowed by suppliers}$$

(vii) Direct Wages:

$$\frac{\text{Estimated labour hours x wages rate per hour}}{\text{12 months / 365 days *}} \times \text{Average time lag in payment of wages}$$

(viii) Overheads (other than depreciation and amortization):

$$\frac{\text{Estimated Overheads}}{\text{12 months / 360 days *}} \times \text{Average time lag in payment of overheads}$$

**Number of days in a year may be taken as 365 or 360 days.*

In practice for Current Assets (Debtors, Finished Goods) – cash cost is considered i.e. exact funds required < CA
(eg: Cost of Sales is used for debtors & that too excluding depreciation or any other non cash costs

Estimation of WC Requirements

		Amount	Amount	Amount
I.	**Current Assets:**			
	Inventories:			
	- Raw Materials	---		
	- Work-in-process	---		
	- Finished goods	---	---	
	Receivables:			
	- Trade debtors	---		
	- Bills	---	---	
	Minimum Cash Balance		---	
	Gross Working Capital		---	---

		Amount	Amount	Amount
II.	Current Liabilities:			
	Trade Payables		---	
	Bills Payables		---	
	Wages Payables		---	
	Payables for overheads		---	---
III.	**Excess of Current Assets over Current Liabilities [I – II]**			---
IV.	Add: Safety Margin			---
V.	**Net Working Capital [III + IV]**			---

Effect of Double Shift- greater use of fixed assets shall yield greater efficiency, although additional working capital may be required but it may not be double in proportion. Also, there should be no impact on WIP as 1st shift WIP shall be completed in 2nd and the closing WIP shall be from 2nd shift now.

Question

On 1st January, the Managing Director of Bhawani Ltd. wishes to know the amount of working capital that will be required during the year. Compute the working capital requirements forecast based on below information:

Production during the previous year was 1,20,000 units. It is planned that this level of activity would be maintained during the present year. Raw materials are expected to remain in store for an average of 2 months before issue to production.

The expected ratios of the cost to selling prices are Raw materials 60%, Direct wages 10% and Overheads 20%.

Each unit is expected to be in process for one month, the raw materials being fed into the pipeline immediately and the labour and overhead costs accruing evenly during the month. Finished goods will stay in the warehouse awaiting dispatch to customers for almost 3 months.

Credit allowed by creditors is 2 months from the date of delivery of raw material. Credit allowed to debtors is 3 months from the date of dispatch. There is a regular production and sales cycle.

Selling price is ₹ 5 per unit. Wages and overheads are paid on the 1st of each month for the previous month. The company normally keeps cash in hand to the extent of ₹ 40,000.

Solution

Inventory : Raw Material (2 months) = 1,20,000 x 5 x 60% x 2/12 = ₹ 60,000

Finished Goods = 1,20,000 x 5 x 90% x 3/12 = ₹ 1,35,000

Work in Progress comprises of raw material, labour & overhead (accruing evenly during a month)

Raw Material (1 month) = 60,000/2 = ₹ 30,000

Labour & O/H (1 month) = 6,00,000 x 30% x 0.5 /12 (accrues evenly) = ₹ 7,500

Thus, Total WIP = ₹ 37,500

Debtors (3 months) = 6,00,000 x 90% (cost of sales) x 3/12 = ₹ 1,35,000

Creditors (2 months) = 6,00,000 x 60% x 2/12 = ₹ 60,000

Wages & Overheads Payable = 6,00,000 x 30% x 1/12 = ₹ 15,000

Cash & Bank given as ₹ 40,000.

Thus, Working Capital = CA – CL = (60,000+1,35,000+37,500+1,35,000+40,000) – (60,000+15,000) = ₹ 3,32,500

Question

Particulars	Amount (in ₹)
Sales (at two months' credit)	18,00,000
Materials consumed (suppliers extend two months' credit)	4,50,000
Wages paid (paid one month in arrear)	3,60,000
Cash manufacturing expenses (Also paid one month in arrear)	4,80,000
Administrative expenses (paid one month in arrear)	1,20,000
Sales promotion expenses (paid quarterly in advance)	60,000

The company sells its products on gross profit of 25%. Depreciation is considered as a part of the cost of production. It keeps one month's stock each of raw materials and finished goods, and a cash balance of ₹ 50,000.

Assuming a 20% safety margin, calculate the working capital requirements of the company on cash cost basis. Ignore work-in-process 😀

Solution

Current Assets

Inventory : Raw Material = 4,50,000 x 1/12 = ₹ 37,500

Finished Goods (M+L+O/H) = (4,50,000+3,60,000+4,80,000) x 1/12 = 12,90,000 x 1/12 = ₹ 1,07,500

Debtors (based on cost of sales) = (12,90,000+1,20,000+60,000) x 2/12 = 14,70,000 x 2/12 = ₹ 2,45,000

Prepaid Expenses (Sales Promotion) = 60,000 x ¼ = ₹ 15,000 Cash = 50,000

Thus, Total Current Assets or Gross Working Capital = ₹ 4,55,000

Current Liabilities

Creditors = 4,50,000 x 2/12 = ₹ 75,000 Wages & other Expenses Payable = 9,60,000 x 1/12 = ₹ 80,000

Thus, Total Current Liabilities = ₹ 1,55,000

Net Working Capital = CA – CL = ₹ 3,00,000 Add: Margin of Safety 20% = ₹ 3,60,000

Question

Samreen Enterprises has been operating its manufacturing facilities till 31.3.2017 on a single shift working with the following cost structure:

	Per unit (₹)
Cost of Materials	6.00
Wages (out of which 40% fixed)	5.00
Overheads (out of which 80% fixed)	5.00
Profit	2.00
Selling Price	18.00
Sales during 2016-17 – ₹ 4,32,000.	

As at 31.3.2017 the company held:

	(₹)
Stock of raw materials (at cost)	36,000
Work-in-progress (valued at prime cost)	22,000
Finished goods (valued at total cost)	72,000
Sundry debtors	1,08,000

In view of increased market demand, it is proposed to double production by working an extra shift. It is expected that a 10% discount will be available from suppliers of raw materials in view of increased volume of business. Selling price will remain the same. The credit period allowed to customers will remain unaltered. Credit availed of from suppliers will continue to remain at the present level i.e., 2 months. Lag in payment of wages and expenses will continue to remain half a month.

You are required to PREPARE the additional working capital requirements, if the policy to increase output is implemented.

Solution

Sales for 2016-17 = 4,32,000 @ ₹ 18/- , thus present volume = 24,000 units (single shift)

Closing Stock of Raw Material = 36,000 , thus units = 36,000 / 6 = 6,000 (single shift)

Closing Work in Process = 22,000, thus units = 22,000 /11 (Prime Cost = Material + Labour) = 2,000 (Single shift but shall not change with double shift as it will be only the 2nd shift WIP)

Closing Stock of FG = 72,000, thus units = 72.000/16 (total cost) = 4,500 (single shift)

Statement of Cost at Single & Double Shift

	24,000 units		48,000 Units	
	Per unit (₹)	Total (₹)	Per unit (₹)	Total (₹)
Raw materials	6.00	1,44,000	5.40	2,59,200
Wages - Variable	3.00	72,000	3.00	1,44,000
Fixed	2.00	48,000	1.00	48,000
Overheads - Variable	1.00	24,000	1.00	48,000
Fixed	4.00	96,000	2.00	96,000
Total cost	16.00	3,84,000	12.40	5,95,200
Profit	2.00	48,000	5.60	2,68,800
	18.00	4,32,000	18.00	8,64,000

Remains same irrespective of double shift

Balancing Figure

Comparative Statement of Working Capital Requirement

	Single Shift			Double Shift		
	Unit	Rate (₹)	Amount (₹)	Unit	Rate (₹)	Amount (₹)
Current Assets						
Inventories :						
Raw Materials	6,000	6.00	36,000	12,000	5.40	64,800
Work-in-Progress	2,000	11.00	22,000	2,000	9.40	18,800
Finished Goods	4,500	16.00	72,000	9,000	12.40	1,11,600
Sundry Debtors	6,000	16.00	96,000	12,000	12.40	1,48,800
Total Current Assets: (A)			2,26,000			3,44,000
Current Liabilities						
Creditors for Materials	4,000	6.00	24,000	8,000	5.40	43,200
Creditors for Wages	1,000	5.00	5,000	2,000	4.00	8,000
Creditors for Expenses	1,000	5.00	5,000	2,000	3.00	6,000
Total Current Liabilities: (B)			34,000			57,200
Working Capital: (A) – (B)			1,92,000			2,86,800

Additional Working Capital requirement = ₹ 2,86,800 – ₹ 1,92,000 = ₹ 94,800

Treasury Management

GOALS

- Maximize return on available cash
- Minimize interest cost on borrowings
- Efficient mobilization of cash in ventures
- Hedging – Effective dealing in forex & commodity

Treasury Department Functions

- **Cash Management –** Managing cash collection & payment & investment of surplus funds
- **Banking –** Maintaining good relations with bankers, negotiating interest rates
- **Fund Management –** Planning & sourcing short/medium/long term needs & capital structure decisions
- **Currency Management –** Matching receipts & payments of same currency, hedging the exchange fluctuations by forward contracts
- **Corporate Finance –** Acquisition & divestiture activities, investor relations

Cash Management

Needs for Cash

- **Transaction Need** – day to day expenses & debt payments
- **Speculative Need** – taking advantage of temporary profitable opportunities
- **Precautionary Need** – providing safety against unexpected events

Cash Planning & Budgeting

- Forecasting of cash inflows and outflows to coordinate the timing of cash needs avoiding excess / shortage

Methods of Cash Budgeting

Receipts & Payments Method	Adjusted Income Method	Adjusted Balance Sheet
Periodic information flow through functional & Capital budgets	Adjusting for delays in payment & collection and non cash items (Indirect Method of CFS)	Each asset & short term liability is expressed as % of sales with known LT liability to know shortage / surplus

Cash Budget for Long Period

Take Cash & Bank at the beginning for the year and do below adjustments

Add

- Profit before tax and add back Depreciation
- Sales proceeds from assets
- Proceeds from fresh issue of shares or debentures
- Reduction in working capital

Less

- Dividends & taxes to be paid
- Cost of assets to be purchased (from capital budget)
- Shares or debentures to be redeemed
- Increase in Working Capital

Cash Budget Exercise

Prepare monthly cash budget for 6 months beginning from April 2019 on the basis of below details:

Months	Estimated Sales (₹)	Months	Estimated Sales (₹)	Months	Estimated Sales (₹)
Jan	1,00,000	Apr	80,000	July	1,00,000
Feb	1,20,000	May	60,000	Aug	80,000
Mar	1,40,000	June	80,000	Sep	60,000
				Oct	1,00,000

Months	Estimated Wages (₹)	Months	Estimated Wages (₹)	Months	Estimated Wages (₹)
Apr	9,000	June	10,000	Aug	9,000
May	8,000	July	10,000	Sep	9,000

- Of the sales, 80% is on credit and 20% for cash. 75% of the credit sales are collected within one month and the balance in second month after sale. There are no bad debt losses. Purchases amount to 80% of sales and are made on credit and paid for in the month preceding the sales
- The firm has 10% debentures of ₹ 1,20,000. Interest on these has to be paid quarterly in January, April and so on. The firm is to make an advance payment of tax of ₹ 5,000 in July, 2019.
- The firm had a cash balance of ₹ 20,000 on 1st April 2019, which is the minimum desired level of cash balance. Any cash surplus/deficit above/below this level is made up by temporary investments/liquidation of temporary investments or temporary borrowings at the end of each month (interest on these to be ignored).

Cash Budget Exercise

Statement of Collection from Debtors on Account of Credit Sale for 2019								
	February	March	April	May	June	July	August	September
Total sales	1,20,000	1,40,000	80,000	60,000	80,000	1,00,000	80,000	60,000
Credit sales (80% of total sales)	96,000	1,12,000	64,000	48,000	64,000	80,000	64,000	48,000
Collections:								
One month		72,000	84,000	48,000	36,000	48,000	60,000	48,000
Two months			24,000	28,000	16,000	12,000	16,000	20,000
Total collections			1,08,000	76,000	52,000	60,000	76,000	68,000

Cash Budget Exercise

Monthly Budget from April to September 2019

Receipts:						
	April	*May*	*June*	*July*	*August*	*September*
Opening balance	20,000	20,000	20,000	20,000	20,000	20,000
Cash sales	16,000	12,000	16,000	20,000	16,000	12,000
Collection from debtors	1,08,000	76,000	52,000	60,000	76,000	68,000
Total cash available (A)	1,44,000	1,08,000	88,000	1,00,000	1,12,000	1,00,000
Payments:						
Purchases	48,000	64,000	80,000	64,000	48,000	80,000
Wages & salaries	9,000	8,000	10,000	10,000	9,000	9,000
Interest on debentures	3,000	---	----	3,000	---	----
Tax payment	---	---	----	5,000	----	----
Total payments (B)	60,000	72,000	90,000	82,000	57,000	89,000
Minimum cash balance desired	20,000	20,000	20,000	20,000	20,000	20,000
Total cash needed (C)	80,000	92,000	1,10,000	1,02,000	77,000	1,09,000

	April	*May*	*June*	*July*	*August*	*September*
Surplus - deficit (A-C)	64,000	16,000	(22,000)	(2,000)	35,000	(9,000)
Investment/financing Temporary Investments	(64,000)	(16,000)	----		(35,000)	-----
Liquidation of temporary investments or temporary borrowings	----	----	22,000	2,000	----	9,000
Total effect of investment/financing (D)	(64,000)	(16,000)	22,000	2,000	(35,000)	9,000
Closing cash balance (A+D-B)	20,000	20,000	20,000	20,000	20,000	20,000

Illustration

From the following information, you are required to prepare Month-wise cash budget on receipts and payments basis for the three months ending 31st March, 2019. It is anticipated that the working capital at 1st January, 2019 will be as follows:-

	₹ in '000's		₹ in '000's		₹ in '000's
Cash & Bank	545	Stock	1,300	Dividends Payable	485
Short term investments	300	Trade Creditors	2,110	Tax Due	320
Debtors	2,570	Other Creditors	200	Plant	800

Budgeted Profit Statement:	*₹ in '000's*		
	January	*February*	*March*
Sales	*2,100*	*1,800*	*1,700*
Cost of sales	*1,635*	*1,405*	*1,330*
Gross Profit	*465*	*395*	*370*
Administrative, Selling and Distribution Expenses	*315*	*270*	*255*
Net Profit before tax	*150*	*125*	*115*

Depreciation of ₹ 60,000 is included in the budgeted expenditure for each month.

Budgeted balances at the end of each months:	*₹ in '000's*		
	31st Jan.	*28th Feb.*	*31st March*
Short term investments	*700*	*---*	*200*
Debtors	*2,600*	*2,500*	*2,350*
Stock	*1,200*	*1,100*	*1,000*
Trade creditors	*2,000*	*1,950*	*1,900*
Other creditors	*200*	*200*	*200*
Dividends payable	*485*	*--*	*--*
Tax due	*320*	*320*	*320*
Plant (depreciation ignored)	*800*	*1,600*	*1,550*

Solution

COGS = Opening Stock + Purchases – Closing Stock , hence Purchases = COGS + closing stock – opening stock

Cash Payment to Creditors = Opening Balance + Purchases – Closing Balance

Cash Received from Debtors = Opening Balance + Sales – Closing Balance

	January	February	March
COGS (A)	1,635	1,405	1,330
Closing Stock (B)	1,200	1,100	1,000
Opening Stock (C)	1,300	1,200	1,100
Purchases (A + B – C)	1,535	1,305	1,230
Creditors Opening Balance	2,110	2,000	1,950
Creditors Closing Balance	2,000	1,950	1,900
Payment to Creditors	1,645	1,355	1,280
Debtors Opening Balance (O)	2,570	2,600	2,500
Sales (S)	2,100	1,800	1,700
Debtors Closing Balance (C)	2,600	2,500	2,350
Receipts from Debtors (O + S – C)	2,070	1,900	1,850

Solution

Cash Budget for 3 Months ending 31st March 2019

			(₹, in 000's)
	January, 2019	Feb. 2019	March, 2019
Opening cash balances	545	315	65
Add: Receipts:			
From Debtors	2,070	1,900	1,850
Sale of Investments	---	700	----
Sale of Plant	---	---	50
Total (A)	2,615	2,915	1,965
Deduct: Payments			
Creditors	1,645	1,355	1,280
Expenses	255	210	195
Capital Expenditure	---	800	---
Payment of dividend	---	485	---
Purchase of investments	400	---	200
Total payments (B)	2,300	2,850	1,675
Closing cash balance (A-B)	315	65	290

Investments decreased from 700 to Nil

Plant decreased from 1,600 to 1,550

Excluding depreciation of 60 K

Plant increased from 800 to 1600

Investments : 300 to 700 & Nil to 200

Managing Cash Collection & Disbursements

Twin Objectives : Accelerate Collections & Defer disbursements

The prime reason for large gap between sales & realization of funds relate to 4 types of float

Billing Float	Mail Float	Cheque Processing	Bank Processing
• Time between sale of goods and mailing of invoice	• Time taken by delivery agency carrying the cheque	• Time taken to record & deposit cheque after receiving	• Time involved in clearing of funds

Collection Management: Speed up cash collections by issuing invoices quickly or by reducing the time lag between a customer pays bill and the cheque is collected and funds become available for use

- **Concentration Banking:** One major/concentration bank at HQs with multiple collection centres in different locations which can collect the cheques & deposit – reducing Mail Float

- **Lock Box System:** Renting local post-office box and authorizing bank at each location to pick up remittances in the boxes. Customers are billed with instructions to mail their remittances to the lock boxes. The bank picks up the mail several times a day and deposits the cheques in the company's account – eliminating cheque processing float.

Deferring Payments: Making full utilization of credit period allowed & taking advantage of float in this case

* Home Work – Read Illustr 9 (Praachi Ltd) on Pg 18 which shows the clearing with floats and also uncleared float

Cash Management Developments

- **Electronic Fund Transfer**: quick transfer of funds, instant balance updates etc
- **Zero balance account:** using marketable securities to invest any balance (sell if needed)
- **Money Market Operations:** Surplus funds invested as deposits for days / weeks as required by bargaining rates
- Investing temporary cash surplus in market instruments : debt or equity
- **Electronic Cash Management System:** ease of net banking globally during designated hours
- **Virtual Banking:** ATMs, NEFT, Use of Magnetic Ink Character recognition (MICR) etc

Management of Marketable Securities

Temporarily excess funds can be parked in short term securities that can be liquidated on need basis. Examples- government treasury bills, deposits with banks & other corporates etc. Selection of securities is governed by 3 principals:

- Safety : ensuring minimum risk
- Maturity: matching maturity with forecasted needs
- Marketability: Convenience, speed and cost at which security can be sold

Illustration

The following information is available in respect of Shri Bhakti company:

- On an average, debtors are collected after 45 days; inventories have an average holding period of 75 days and creditor's payment period on an average is 30 days.
- The firm spends a total of ₹ 150 lakhs annually at a constant rate and it can earn 12% on investments.

From the above information, you are required to CALCULATE: a) The cash cycle and cash turnover b) Minimum amounts of cash to be maintained to meet payments as they become due and c) Savings by reducing the average inventory holding period by 30 days.

Cash cycle = 45 days + 75 days – 30 days = 90 days (3 months) Cash turnover = 12 months (360 days)/3 months (90 days) = 4.

Minimum operating cash = Total operating annual outlay/cash turnover, = 150/4 = ₹ 37.50 lakhs.

Cash cycle = 45 days + 45 days – 30 days = 60 days (2 months). Cash turnover = 12 months (360 days)/2 months (60 days) = 6.

Minimum operating cash = 150/6 = ₹ 25 lakhs. Reduction in investments = 37.50 - 25= ₹ 12.50 lakhs.

Thus, Savings = 12,50,000 x 12% = ₹ 1,50,000

Cash Management Models

- **William J. Baumol's EOQ Model (Inventory Type Model) –** Optimum cash level is that where carrying costs (opportunity cost) and transaction costs (brokerage) are minimum

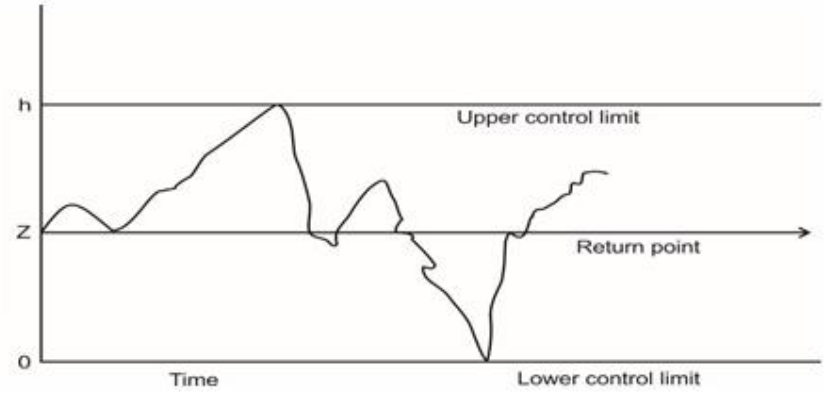
$$C=\sqrt{\frac{2U\times P}{S}}$$

where, C = optimum cash balance, U = Annual/monthly cash disbursement,

P = fixed cost per transaction and S = Opportunity cost of ₹ 1 p.a. or p.m.

(based on assumptions like holding & transaction costs are constant, cash needs are known & is used uniformly)

- **Miller-Orr Cash Management Model (Stochastic)-** Useful where changes in cash balance occur randomly. Three control limits are set : Upper (H) , Return Point (Z) and Lower limit as zero or a lower number than Z.
  - When balances reaches Z, then an amount = H-Z is invested in marketable securities
  - When it touches lower limit then some investments are liquidated and when balance is between these 3 limits, no transaction



Management of Receivables

- **Receivables Management:** Planning & Controlling the debt owed to the firm
- **Large Receivables >**Lenient credit policy, risk of bad debts, cost of collection, opportunity cost etc
- **Low Receivables > ** Strict credit policy, low sales volume

3 Aspects of Receivables Management are:

1**) Credit Policy:** Trade-off between the profits on additional sales that arise due to credit being extended on the one hand and the cost of carrying those debtors and bad debt losses on the other.

It determines credit period, cash discount, if any > example: 2/10 Net 30

Factors affecting Credit Policy: effect on sales volume, firms policy, customers' reputation, cash discount vs Interest

2) Credit Analysis or Due Diligence: checking customer background (can enhance credit over time), risk analysis

3) Control of Receivables: following up with debtors, ageing analysis i.e. execution & monitoring of credit policy

Approaches to Credit Policy Evaluation

Total / Gross Approach

Particulars	*Present Policy*	*Proposed Policy I*	*Proposed Policy II*	*Proposed Policy III*
	₹	₹	₹	₹
A. Expected Profit:				
(a) Credit Sales	.....	.....	.....	.....
(b) Total Cost other than Bad Debts and Cash Discount				
(i) Variable Costs	.....	.....	.....	.....
(ii) Fixed Costs	.....	.....	.....	.....
	.....	.....	.....	.....
(c) Bad Debts	.....	.....	.....	.....
(d) Cash discount				

Particulars	*Present Policy*	*Proposed Policy I*	*Proposed Policy II*	*Proposed Policy III*
	₹	₹	₹	₹
(e) Expected Net Profit before Tax (a-b-c-d)	.....	.....	.....	.....
(f) *Less:* Tax	.....	.....	.....	.....
(g) Expected Profit after Tax	.....	.....	.....	.....
B. Opportunity Cost of Investments in Receivables locked up in Collection Period	.....	.....	.....	.....
Net Benefits (A – B)	.....	.....	.....	.....

- Fixed costs doesn't change amongst policies i.e. (Average unit cost – variable cost p.u.) x No. of units sold under current policy
- Opportunity cost = Total Cost of Sales x (collection period / 365) x Required Rate of Return

Approaches to Credit Policy Evaluation

Incremental Approach – Every number is presented on incremental basis

Particulars	Present Policy days	Proposed Policy I days	Proposed Policy II days	Proposed Policy III days
	₹	₹	₹	₹
A. Incremental Expected Profit:				
Credit Sales	.....	.....	.....	.....
(a) Incremental Credit Sales	.....	.....	.....	.....
(b) Less: Incremental Costs of Credit Sales				
(i) Variable Costs	.....	.....	.....	.....
(ii) Fixed Costs	.....	.....	.....	.....
(c) Incremental Bad Debt Losses	.....	.....	.....	.....
(d) Incremental Cash Discount	.....	.....	.....	.....
(e) Incremental Expected Profit (a-b-c-d)	.....	.....	.....	.....
(f) Less: Tax	.....	.....	.....	.....
(g) Incremental Expected Profit after Tax	.....	.....	.....	.....
	.....	.....	.....	.....

Particulars	Present Policy days	Proposed Policy I days	Proposed Policy II days	Proposed Policy III days
	₹	₹	₹	₹
B. Required Return on Incremental Investments:				
(a) Cost of Credit Sales	.....	.....	.....	.....
(b) Collection Period (in days)	.....	.....	.....	.....
(c) Investment in Receivable (a × b/365 or 360)	.....	.....	.....	.....
(d) Incremental Investment in Receivables	.....	.....	.....	.....
(e) Required Rate of Return (in %)	.....	.....	.....	.....
(f) Required Return on Incremental Investments (d × e)	.....	.....	.....	.....
Incremental Net Benefits (A – B)	.....	.....	.....	.....

- Fixed costs doesn't change amongst policies i.e. (Average unit cost – variable cost p.u.) x No. of units sold under current policy
- Opportunity cost = Total Cost of Sales x (collection period / 365) x Required Rate of Return

Illustration

A trader whose current sales are in the region of ₹ 6 lakhs per annum and an average collection period of 30 days wants to pursue a more liberal policy to improve sales. A study made by a management consultant reveals the following information:-

Credit Policy	Increase in collection period	Increase in sales	Present default anticipated
A	10 days	₹ 30,000	1.5%
B	20 days	₹ 48,000	2%
C	30 days	₹ 75,000	3%
D	45 days	₹ 90,000	4%

The selling price per unit is ₹ 3. Average cost per unit is ₹ 2.25 and variable costs per unit are ₹ 2. The current bad debt loss is 1%. Required return on additional investment is 20%. Assume a 360 days year.

ANALYSE which of the above policies would you recommend for adoption?

Solution

Total / Gross Approach

Particulars		Present Policy 30 days	Proposed Policy A 40 days	Proposed Policy B 50 days	Proposed Policy C 60 days	Proposed Policy D 75 days
		₹	₹	₹	₹	₹
A.	Expected Profit:					
	(a) Credit Sales	6,00,000	6,30,000	6,48,000	6,75,000	6,90,000
	(b) Total Cost other than Bad Debts					
	(i) Variable Costs [Sales × 2/ 3]	4,00,000	4,20,000	4,32,000	4,50,000	4,60,000
	(ii) Fixed Costs	50,000	50,000	50,000	50,000	50,000
		4,50,000	4,70,000	4,82,000	5,00,000	5,10,000
	(c) Bad Debts	6,000	9,450	12,960	20,250	27,600
	(d) Expected Profit [(a) – (b) – (c)]	1,44,000	1,50,550	1,53,040	1,54,750	1,52,400
B.	Opportunity Cost of Investments in Receivables Total Cost of Sales x (collection period / 365) x Required Return	7,500 (4,50,000 x 20% x 30/360)	10,444 (4,70,000 x 20% x 40/360)	13,389 (4,82,000 x 20% x 50/360)	16,667 (5,00,000 x 20% x 60/360)	21,250 (5,10,000 x 20% x 75/360)
C.	**Net Benefits (A – B)**	**1,36,500**	**1,40,106**	**1,39,651**	**1,38,083**	**1,31,150**

Solution

Incremental Approach

Particulars		Present Policy 30 days	Proposed Policy A 40 days	Proposed Policy B 50 days	Proposed Policy C 60 days	Proposed Policy D 75 days
		₹	₹	₹	₹	₹
A.	**Incremental Expected Profit:**					
	(a) Incremental Credit Sales	0	30,000	48,000	75,000	90,000
	(b) Incremental Costs					
	(i) Variable Costs	4,00,000	20,000	32,000	50,000	60,000
	(ii) Fixed Costs	50,000	-	-	-	-
	(c) Incremental Bad Debt Losses	6,000	3,450	6,960	14,250	21,600
	(d) Incremental Expected Profit (a – b –c)]		**6,550**	**9,040**	**10,750**	**8,400**
B.	**Required Return on Incremental Investments:**					
	(a) Cost of Credit Sales	4,50,000	4,70,000	4,82,000	5,00,000	5,10,000
	(b) Collection period	30	40	50	60	75
	(c) Investment in Receivable (a × b/360)	37,500	52,222	66,944	83,333	1,06,250
	(d) Incremental Investment in Receivables	-	14,722	29,444	45,833	68,750
	(e) Required Rate of Return (in %)		20	20	20	20
	(f) Required Return on Incremental Investments (d × e)	**-**	**2,944**	**5,889**	**9,167**	**13,750**
C.	**Net Benefits (A – B)**	**-**	3,606	3,151	1,583	– 5,350

Expected Return Approach
(Incremental Profit / Incremental Receivable) = A(d) / B(d)

	Expected ROR		44.49%	30.70%	23.45%	12.22%

Financing of Receivables

Allows business to receive early payment in respect of their outstanding issued invoices rather than letting them sit in form of accounts receivable, of course comes at a cost.

Pledging

- Securing short term loan with receivables as collateral (funding between 50-90% of receivables)
- Involves high cost of financing

Factoring

- Outright sale of receivables to a factor or financial agency
- Can be Recourse (factor can require to replace the receivables) and can be non- recourse (factor bears the risk of loss)
- Factor charges commission & interest accordingly (basis risk) & can also withhold some amount for adjustments
- It is not a loan & hence no repayment required & balance sheet remains healthy

Statement showing the Evaluation of Factoring Proposal

	Particulars	₹
A.	**Annual Savings (Benefit) on taking Factoring Service**	
	Cost of Credit Administration saved	.....
	Bad Debts avoided	.....
	Interest saved due to reduction in Average collection period (Wherever applicable) [Cost of Annual Credit Sales × Rate of Interest × (Present Collection Period – New Collection Period)/360* days]	.....
	Total	.....
B.	**Annual Cost of Factoring to the Firm:**	
	Factoring Commission [Annual credit Sales × % of Commission (or calculated annually)]	.....
	Interest Charged by Factor on advance (or calculated annually)	.....
	[Amount available for advance or (Annual Credit Sales – Factoring Commission – Factoring Reserve)] × $\left[\frac{\text{Collection Period (days)}}{360^*} \times \text{Rate of Interest}\right]$	
	Total	.....
C.	**Net Annual Benefits/Cost of Factoring to the Firm:**	.....
	Rate of Effective Cost of Factoring to the Firm $= \frac{\text{Net Annual cost of Factoring}}{\text{Amount available for advance}} \times 100$ or $\frac{\text{Net annual Cost of Factoring}}{\text{Advances to be paid}} \times 100$	
	Advances to be paid = (Amount available for advance – Interest deducted by factor)	

Advise- Factoring services should be availed if rate of effective cost of borrowing is less than existing cost of borrowing

Illustration

Heavens Co. has credit sales of ₹ 240 lakhs and its average collection period is 30 days. The financial controller estimates, bad debt losses are around 1.5% of credit sales. The firm spends ₹ 1,40,000 annually on debtors administration. This cost comprises of telephonic and fax bills along with salaries of staff members. These are the avoidable costs. A Factoring firm has offered to buy the firm's receivables. The factor will charge 1% commission and will pay an advance against receivables on an interest @10% p.a. after withholding 10% as reserve. Suggest if they should accept the factoring proposal. (assume 360 days in a year)

Working:-

Average monthly receivables = 30 x 240/360 = 20,00,000

Factor's Commission = 1% x 20,00,000 = 20,000

Factor's Retention = 10% x 20,00,000 = 2,00,000

Amount available for Advance = 20,00,000 – 2,20,000

Thus, Interest = 10% x 17,80,000 x 30/360 = 14,833

Net funding by factor = 17,80,000 – 14,833 = 17,65,167

Evaluation of Factoring Proposal:-

A. Annual Savings to Heavens Co.	
Administration Cost	1,40,000
Bad Debts (1.5% on 240L)	3,60,000
Total Savings	**5,00,000**
B. Annual Factoring Cost to Heavens Co.	
Factor's Annual Commission (20,000 x 12)	2,40,000
Annual Interest Charges (14833 x 12)	1,78,000
Total Costs	**4,18,000**
Net Savings, hence accept	**82,000**

Latest Developments & Monitoring

1) **Re-engineering Receivable Management –** Centralization of high Volume transactions, Alternative Payment techniques such as Integrated Voice response, Third party collections, lock boxes, direct debit etc.

2) **Use of Latest Technology –** Use of ERP systems to block transactions beyond a credit limit also integrated with various modules like Inventory, Electronic fund transfers etc

3) **Use of Financial Tools & Techniques –** due diligence for evaluating credit worthiness, use of credit rating agencies, efficient collection policies including automatic emailers, Monitoring by regular Ageing analysis etc

4) **Efficiency in Internal business practices –** Early issue of invoice, updating credit terms & limits, continuous monitoring, if required outsourcing etc.

5) **Robust Legal practices**

Management of Payables

Trade Payables or Creditors – Very significant source of short term finance. Slow payments can pose negative reputation, loss of early payments discount & also solvency issues at times.

Cost of Availing Credit – Early payment discount foregone, Loss of reputation if over-stepped, cost of managing

Cost of Not Availing Credit – Loss of interest , Loss of inflation benefit (if prices rise, you still pay same)

Payment Terms : 2/10, Net 30 means a credit period of 30 days and 2% discount if paid within 10 days

Annual Cost of forgoing discount:

$$\frac{360 \text{ or } 365}{\text{Credit Period - Discount Period}} \times \frac{\text{Discount \%}}{100 - \text{Discount \%}}$$

Inventory Management

Inventory : Major constituent of Working Capital

High levels of Inventory : No stockouts & less ordering cost, but more carrying cost & opportunity cost

Low levels of inventory : Less carrying costs, but more ordering costs & risks of Stock Outs, loss of reputation

Illustration

Pureair Company is a distributor of air filters to retail stores. It buys its filters from several manufacturers. Filters are ordered in lot sizes of 1,000 and each order costs ₹ 40 to place. Demand from retail stores is 20,000 filters per month, and carrying cost is ₹ 0.10 a filter per month.

(a) COMPUTE the optimal order quantity with respect to so many lot sizes?

(b) CALCULATE the optimal order quantity if the carrying cost were ₹ 0.05 a filter per month?

(c) COMPUTE the optimal order quantity if ordering costs were ₹ 10?

$$EOQ = \sqrt{\frac{2(Annual\ Demand * Cost\ per\ Order)}{Annual\ holding\ cost\ per\ unit}}$$

a) EOQ = 4 b) EOQ = 5.66 c) EOQ = 2

Financing of Working Capital

Permanent WC – always required irrespective of sales i.e. financed by long term sources debt & Equity

Temporary WC – can be required on & off i.e. financed by short term sources of finance

Sources of WC

- Spontaneous Sources - Trade Credit : time period allowed by suppliers, Accrued Expenses
- Funds generated by operations – profits & depreciation (for replacement)
- Factoring of Receivables
- Commercial Papers – unsecured promissory note issued to raise funds for short period by highly rated firms, Maturity: 7days to 1 year, In denomination of ₹ 5 Lakhs
- Working Capital Financing by Banks – Bank Overdraft, Bank Guarantees, bills discounting etc

Maximum permissible bank finance (MPBF) recommended by RBI - Tandon Committee

- Suggests 25% of either working capital or current assets should be funded by long term funds and balance can be MPBF

Test Yourself

Q1. When a firm advises its customers to mail their payments to designated post office collection centres, the system is known as

a) Concentration Banking

b) Lock Box System

c) Playing the Float

d) Factoring

Q2. The term gross working capital is known as:

a) Investment in Current Assets

b) Investment in Current Liabilities

c) Current Assets minus Current Liabilities

d) Investment in Non-Current Liabilities

Question

PQ Ltd., a company newly commencing business in 2019 has the following projected Profit and Loss Account:

	(₹)	(₹)
Sales		2,10,000
Cost of goods sold		1,53,000
Gross Profit		57,000
Administrative Expenses	14,000	
Selling Expenses	13,000	27,000
Profit before tax		30,000
Provision for taxation		10,000
Profit after tax		20,000
The cost of goods sold has been arrived at as under:		
Materials used	84,000	
Wages and manufacturing Expenses	62,500	
Depreciation	23,500	
	1,70,000	
Less: Stock of Finished goods (10% of goods produced not yet sold)	17,000	
	1,53,000	

The cost of goods sold figure given P&L A/c relate only to finished goods and not to work-in- progress. Goods equal to 15% of the year's production (in terms of physical units) will be in process on the average requiring full materials but only 40% of the other expenses. The company believes in keeping materials equal to two months' consumption in stock.

All expenses will be paid one month in advance. Suppliers of materials will extend 1-1/2 months credit. Sales will be 20% for cash and the rest at two months' credit. 70% of the Income tax will be paid in advance in quarterly instalments. The company wishes to keep Rs. 8,000 in cash. 10% has to be added to the estimated figure for unforeseen contingencies.

Prepare an estimate of working capital.

Solution

Calculation of Working Capital Requirement for PQ Ltd

Cash	8,000
Inventory: Raw Material 96,600 x 2/12 = 16,100	16,100
WIP (Material 84,000 x 15% = 12,600, Labour & overhead 62500 x 15% x 40% = 3,750 WIP = 12,600+3.750	16,350
Finished Goods (84000+62500) x 10% (basis cash cost, hence depreciation ignored)	14,650
Debtors: 2 months of 80% of Cash Cost of Sales i.e. (Mat 96,600 + Lab & OH 66,250 + Admin 14,000 + S&D 13,000 Less Closing Stock: WIP 16,350 & FG 14,650 = 1,58,850 x 80% x 2/12)	21,180
Prepaid Expenses (Lab & OH 66250/12 = 5521 + Admin & SD 27000/12 = 2,250 + Taxes 7000/4 = 1,750)	9,521
Current Assets or Gross Working Capital	**85,801**
Current Liabilities (Provision for Tax 10,000 – 7,000 = 3,000 Plus Creditors for 1.5 Months of total purchases) Total Purchases : RM consumed + Closing stock = 96,600+16,100 = 1,12,700 x 1.5/12 = 14,088)	**(17,088)**
Current Assets – Current Liabilities (Working Capital)	**68,713**
Add : Contingency reserve of 10%	6,871
Thus, **Total Working Capital Required**	**75,584**

Question

Slow Payers are regular customers of Goods Dealers Ltd. and have approached the sellers for extension of credit facility for enabling them to purchase goods. On an analysis of past performance and on the basis of information supplied, the following pattern of payment schedule emerges in regard to Slow Payers:

Pattern of Payment Schedule	
At the end of 30 days	15% of the bill
At the end of 60 days	34% of the bill.
At the end of 90 days	30% of the bill.
At the end of 100 days	20% of the bill.
Non-recovery	1% of the bill.

Slow Payers want to enter into a firm commitment for purchase of goods of ₹ 15 lakhs in 20X7, deliveries to be made in equal quantities on the first day of each quarter in the calendar year. The price per unit of commodity is ₹ 150 on which a profit of ₹ 5 per unit is expected to be made. It is anticipated by Goods Dealers Ltd., that taking up of this contract would mean an extra recurring expenditure of ₹ 5,000 per annum. If the opportunity cost of funds in the hands of Goods Dealers is 24% per annum, would you as the finance manager of the seller recommend the grant of credit to Slow Payers? ANALYSE. Workings should form part of your answer. Assume year of 365 days.

Expected Profit 15L – 14.50L	50,000
Extra Cost incurred	(5,000)
Bad Debts (1% of 15L)	(15,000)
Net Additional Profit (A)	**30,000**

Calculation of Opportunity Cost (Amount of Debtors x RR)

Details	15%	34%	30%	20%
Total Cost*	2,18,250	4,94,700	4,36,500	2,91,000
Collection Period	30	60	90	100
Opp Cost @24%	4,305	19,517	25,831	19,134

* Total cost = 14,50,000 + 5,000 = 14,55,000

Thus, total Opportunity Cost is 68,787 against net additional profit of 30,000. Hence, proposal should be rejected.

Question

Day Ltd., a newly formed company has applied to the Private Bank for the first time for financing it's Working Capital Requirements. The following information is available about the projections for the current year:

Estimated Level of Activity	Completed Units of Production 31,200 plus unit of work in progress 12,000
Raw Material Cost	₹ 40 per unit
Direct Wages Cost	₹ 15 per unit
Overhead	₹ 40 per unit (inclusive of Depreciation ₹10 per unit)
Selling Price	₹ 130 per unit
Raw Material in Stock	Average 30 days consumption
Work in Progress Stock	Material 100% and Conversion Cost 50%
Finished Goods Stock	24,000 Units
Credit Allowed by the supplier	30 days
Credit Allowed to Purchasers	60 days
Direct Wages (Lag in payment)	15 days
Expected Cash Balance	₹ 2,00,000

Assume that production is carried on evenly throughout the year (360 days) and wages and overheads accrue similarly. All sales are on the credit basis. You are required to CALCULATE the Net Working Capital Requirement on Cash Cost Basis.

Calculation of Working Capital for Day Ltd

Details	Notes	Units / Eq Units	Working ₹	Amount in ₹
Cash				**2,00,000.00**
Inventory				
Raw Material	Completed + WIP	3,600.00	1,44,000.00	
WIP				
Material		12,000.00	4,80,000.00	
L & OH		6,000.00	2,70,000.00	
Finished Goods		24,000.00	20,40,000.00	**29,34,000.00**
Debtors				
Cash cost of sales		7,200.00	6,12,000.00	**1,02,000.00**
Gross WC or Current Assets				**32,36,000.00**
Creditors				
Raw Material Consumed		43,200.00		
Closing Stock	1 month	3,600.00		
Purchases in Units		46,800.00	18,72,000.00	**-1,56,000.00**
Wages Payable	50% for WIP	37,200.00	5,58,000.00	**-23,250.00**
Working Capital				**30,56,750.00**

Question

From the information and the assumption that the cash balance in hand on 1st January 2017 is ₹ 72,500 PREPARE a cash budget.

Assume that 50 per cent of total sales are cash sales. Assets are to be acquired in the months of February and April. Therefore, provisions should be made for the payment of ₹ 8,000 and ₹ 25,000 for the same. An application has been made to the bank for the grant of a loan of ₹ 30,000 and it is hoped that the loan amount will be received in the month of May.

It is anticipated that a dividend of ₹ 35,000 will be paid in June. Debtors are allowed one month's credit. Creditors for materials purchased and overheads grant one month's credit. Sales commission at 3 per cent on sales is paid to the salesman each month.

Month	Sales (₹)	Materials Purchases (₹)	Salaries & Wages (₹)	Production Overheads (₹)	Office and Selling Overheads (₹)
January	72,000	25,000	10,000	6,000	5,500
February	97,000	31,000	12,100	6,300	6,700
March	86,000	25,500	10,600	6,000	7,500
April	88,600	30,600	25,000	6,500	8,900
May	1,02,500	37,000	22,000	8,000	11,000
June	1,08,700	38,800	23,000	8,200	11,500

Cash Budget for 6 Months January - June

Details	Jan	Feb	Mar	Apr	May	Jun
Receipts						
Cash Sales	36,000.00	48,500.00	43,000.00	44,300.00	51,250.00	54,350.00
Debtors		36,000.00	48,500.00	43,000.00	44,300.00	51,250.00
Loan					30,000.00	
Payments						
Creditors		-25,000.00	-31,000.00	-25,500.00	-30,600.00	-37,000.00
Wages	-10,000.00	-12,100.00	-10,600.00	-25,000.00	-22,000.00	-23,000.00
Overheads		-11,500.00	-13,000.00	-13,500.00	-15,400.00	-19,000.00
Assets		-8,000.00		-25,000.00		
Sales Commission	-2,160.00	-2,910.00	-2,580.00	-2,658.00	-3,075.00	-3,261.00
Dividend						-35,000.00
Opening Balance	72,500.00	96,340.00	1,21,330.00	1,55,650.00	1,51,292.00	2,05,767.00
Closing Balance	**96,340.00**	**1,21,330.00**	**1,55,650.00**	**1,51,292.00**	**2,05,767.00**	**1,94,106.00**

Question

Aneja Limited, a newly formed company, has applied to a commercial bank for the first time for financing its working capital requirements. The following information is available about the projections for the current year:

Estimated level of activity: 1,04,000 completed units of production plus 4,000 units of work-in-progress. Based on the above activity, estimated cost per unit is:

Raw material	₹ 80 per unit
Direct wages	₹ 30 per unit
Overheads (exclusive of depreciation)	₹ 60 per unit
Total cost	₹ 170 per unit
Selling price	₹ 200 per unit

Raw materials in stock: Average 4 weeks consumption, work-in-progress (assume 50% completion stage in respect of conversion cost) (materials issued at the start of the processing).

Finished goods in stock	8,000 units
Credit allowed by suppliers	Average 4 weeks
Credit allowed to debtors/receivables	Average 8 weeks
Lag in payment of wages	Average 1.5 weeks

Cash at banks (for smooth operation) is expected to be ₹ 25,000.

Assume that production is carried on evenly throughout the year (52 weeks) and wages and overheads accrue similarly. All sales are on credit basis only.

You are required to CALCULATE the net working capital required.

Calculation of Working Capital for Aneja Ltd

Details	Notes	Units / Eq Units	Working ₹	Amount in ₹
Cash				**25,000.00**
Inventory				
Raw Material - 4 Weeks	Compl + WIP	8,307.69	6,64,615.38	
WIP				
Material	100%	4,000.00	3,20,000.00	
L & OH	50%	2,000.00	1,80,000.00	
Finished Goods	Given	8,000.00	13,60,000.00	**25,24,615.38**
Debtors - 8 Weeks				
Cash cost of sales	Prod - Cl Stock	96,000.00	1,63,20,000.00	**25,10,769.23**
Gross WC or Current Assets				**50,60,384.62**

Creditors - 4 Weeks				
Raw Material Consumed		1,08,000.00		
Closing Stock	4 Weeks	8,307.69		
Purchases in Units		1,16,307.69	93,04,615.38	**-7,15,739.64**
Wages Payable - 1.5 Weeks	50% for WIP	1,06,000.00	31,80,000.00	**-91,730.77**
Working Capital				**42,52,914.20**

THANK YOU