UNIT – IV
MANAGEMENT OF RECEIVABLES

15. MEANING AND OBJECTIVE

Management of receivables refers to planning and controlling of 'debt' owed to the firm from customer on account of credit sales. It is also known as trade credit management.

The basic objective of management of receivables (debtors) is to optimise the return on investment on these assets.

When large amounts are tied up in receivables, there are chances of bad debts and there will be cost of collection of debts. On the contrary, if the investment in receivables is low, the sales may be restricted, since the competitors may offer more liberal terms. Therefore, management of receivables is an important issue and requires proper policies and their implementation.

16. ASPECTS OF MANAGEMENT OF DEBTORS

There are basically three aspects of management of receivables:

1. ***Credit Policy:*** A balanced credit policy should be determined for effective management of receivables. Decision of Credit standards, Credit terms and collection efforts is included in Credit policy. It involves a 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. This seeks to decide credit period, cash discount and other relevant matters. The credit period is generally stated in terms of net days. For example, if the firm's credit terms are "net 50". It is expected that customers will repay credit obligations not later than 50 days.

   Further, the cash discount policy of the firm specifies:

   (a) The rate of cash discount.

   (b) The cash discount period; and

   (c) The net credit period.

For example, the credit terms may be expressed as "3/15 net 60". This means that a 3% discount will be granted if the customer pays within 15 days; if he does not avail the offer he must make payment within 60 days.

2. ***Credit Analysis:*** This requires the finance manager to determine as to how risky it is to advance credit to a particular party. This involves due diligence or reputation check of the customers with respect to their credit worthiness.

3. ***Control of Receivable:*** This requires finance manager to follow up debtors and decide about a suitable credit collection policy. It involves both laying down of credit policies and execution of such policies.

   There is always cost of maintaining receivables which comprises of following costs:

   (i) The company requires additional funds as resources are blocked in receivables which involves a cost in the form of interest (loan funds) or opportunity cost (own funds)

   (ii) Administrative costs which include record keeping, investigation of credit worthiness etc.

   (iii) Collection costs.

   (iv) Defaulting costs.

17. FACTORS DETERMINING CREDIT POLICY

The credit policy is an important factor determining both the quantity and the quality of accounts receivables. Various factors determine the size of the investment a company makes in accounts receivables. They are, for instance:

(i) The effect of credit on the volume of sales;

(ii) Credit terms;

(iii) Cash discount;

(iv) Policies and practices of the firm for selecting credit customers;

(v) Paying practices and habits of the customers;

(vi) The firm's policy and practice of collection; and

(vii) The degree of operating efficiency in the billing, record keeping and adjustment function, other costs such as interest, collection costs and bad debts etc., would also have an impact on the size of the investment in receivables. The rising trend in these costs would depress the size of investment in receivables.

The firm may follow a lenient or a stringent credit policy. The firm which follows a lenient credit policy sells on credit to customers on very liberal terms and standards. On the contrary a firm following a stringent credit policy sells on credit on a highly selective basis only to those customers who have proper credit worthiness and who are financially sound.

Any increase in accounts receivables that is, additional extension of trade credit not only results in higher sales but also requires additional financing to support the increased investment in accounts receivables. The costs of credit investigations and collection efforts and the chances of bad debts are also increased. On the contrary, a decrease in accounts receivable due to a stringent credit policy may be as a result of reduced sales with competitors offering better credit terms.

18. FACTORS UNDER THE CONTROL OF THE FINANCE MANAGER

The finance manager has operating responsibility for the management of the investment in receivables. His involvement includes:-

(a) **Supervising** the administration of credit;

(b) **Contribute** to top management decisions relating to the best credit policies of the firm;

(c) **Deciding** the criteria for selection of credit applications; and

(d) **Speed up** the conversion of receivables into cash by aggressive collection policy.

In summary the finance manager has to strike a balance between the cost of increased investment in receivables and profits from the higher levels of sales.

19. APPROACHES TO EVALUATION OF CREDIT POLICIES

There are basically two methods of evaluating the credit policies to be adopted by a Company – Total Approach and Incremental Approach. The formats for the two approaches are given as under:

Statement showing the Evaluation of Credit Policies (based on Total 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				
(i) Variable Costs	.....	.....	.....	.....
(ii) Fixed Costs	.....	.....	.....	.....
	.....	.....	.....	.....
(c) Bad Debts (d) Cash discount	.....	.....	.....	.....
(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)	.....	.....	.....	.....

Advise: The Policy..... should be adopted since the net benefits under this policy are higher as compared to other policies.

Here

(i) Total Fixed Cost = [Average Cost per unit – Variable Cost per unit] × No. of units sold on credit under Present Policy

(ii) Opportunity Cost = Total Cost of Credit Sales × $\frac{\text{Collection period (Days)}}{365 \text{ (or } 360)} \times \frac{\text{Required Rate of Return}}{100}$

Statement showing the Evaluation of Credit Policies (based on Incremental Approach)

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	.....	.....	.....	.....
	.....	.....	.....	.....
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)		.....	.....	.....	.....

Advise: The Policy .....should be adopted since net benefits under this policy are higher as compared to other policies.

Here:

(i) Total Fixed Cost = [Average Cost per unit – Variable Cost per unit] × No. of units sold on credit under Present Policy

(ii) Opportunity Cost = Total Cost of Credit Sales × $\frac{\text{Collection period (Days)}}{365 \text{ (or } 360)} \times \frac{\text{Required Rate of Return}}{100}$

ILLUSTRATION 12

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

A. Statement showing the Evaluation of Debtors Policies (Total 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**	7,500	10,444	13,389	16,667	21,250
C.	**Net Benefits (A – B)**	1,36,500	1,40,106	1,39,651	1,38,083	1,31,150

Recommendation: The Proposed Policy A (i.e. increase in collection period by 10 days or total 40 days) should be adopted since the net benefits under this policy are higher as compared to other policies.

Working Notes:

(i) **Calculation of Fixed Cost** = [Average Cost per unit – Variable Cost per unit] × No. of Units sold

= [₹ 2.25 - ₹ 2.00] × (₹ 6,00,000/3)

= ₹ 0.25 × 2,00,000 = ₹ 50,000

(ii) **Calculation of Opportunity Cost of Average Investments**

$$\text{Opportunity Cost} = \text{Total Cost} \times \frac{\text{Collection period}}{360} \times \frac{\text{Rate of Return}}{100}$$

Present Policy $= 4,50,000 \times \frac{30}{360} \times \frac{20}{100} = 7,500$

Policy A $= 4,70,000 \times \frac{40}{360} \times \frac{20}{100} = 10,444$

Policy B $= 4,82,000 \times \frac{50}{360} \times \frac{20}{100} = 13,389$

Policy C $= 5,00,000 \times \frac{60}{360} \times \frac{20}{100} = 16,667$

Policy D $= 5,10,000 \times \frac{75}{360} \times \frac{20}{100} = 21,250$

B. Another method of solving the problem is **Incremental Approach**. Here we assume that sales are all credit sales.

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	---	30,000	48,000	75,000	90,000
	(b) Incremental Costs					
	(i) Variable Costs	---	20,000	32,000	50,000	60,000
	(ii)Fixed Costs	---	-	-	-	-
	(c) Incremental Bad Debt Losses	---	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

Recommendation: The Proposed Policy A should be adopted since the net benefits under this policy are higher than those under other policies.

C. Another method of solving the problem is by computing the **Expected Rate of Return**.

$$\text{Expected Rate of Return} = \frac{\text{Incremental Expected Profit}}{\text{Incremental Investment in Receivables}} \times 100$$

$$\text{For Policy A} = \frac{₹\,6,550}{₹\,14,722} \times 100 = 44.49\%$$

$$\text{For Policy B} = \frac{₹\,9,040}{₹\,29,444} \times 100 = 30.70\%$$

$$\text{For Policy C} = \frac{₹\,10,750}{₹\,45,833} \times 100 = 23.45\%$$

$$\text{For Policy D} = \frac{₹\,8,400}{₹\,68,750} \times 100 = 12.22\%$$

Recommendation: The Proposed Policy A should be adopted since the Expected Rate of Return (44.49%) is more than the Required Rate of Return (20%) and is highest among the given policies compared.

ILLUSTRATION 13

XYZ Corporation is considering relaxing its present credit policy and is in the process of evaluating two proposed policies. Currently, the firm has annual credit sales of ₹ 50 lakhs and accounts receivable turnover ratio of 4 times a year. The current level of loss due to bad debts is ₹ 1,50,000. The firm is required to give a return of 25% on the investment in new accounts receivables. The company's variable costs are 70% of the selling price. Given the following information, IDENTIFY which is the better option?

(Amount in ₹)

	Present Policy	***Policy Option I***	***Policy Option II***
Annual credit sales	*50,00,000*	*60,00,000*	*67,50,000*
Accounts receivable turnover ratio	*4 times*	*3 times*	*2.4 times*
Bad debt losses	*1,50,000*	*3,00,000*	*4,50,000*

SOLUTION

Statement showing the Evaluation of Debtors Policies

Particulars	***Present Policy***	***Proposed Policy I***	***Proposed Policy II***
	₹	₹	₹
A Expected Profit:			
(a) Credit Sales	50,00,000	60,00,000	67,50,000
(b) Total Cost other than Bad Debts:			
(i) Variable Costs	35,00,000	42,00,000	47,25,000
(c) Bad Debts	1,50,000	3,00,000	4,50,000
(d) Expected Profit [(a) – (b) – (c)]	13,50,000	15,00,000	15,75,000

B Opportunity Cost of Investments in Receivables	2,18,750	3,50,000	4,92,188
C Net Benefits (A – B)	11,31,250	11,50,000	10,82,812

Recommendation: The Proposed Policy I should be adopted since the net benefits under this policy are higher as compared to other policies.

Working Note: Calculation of Opportunity Cost of Average Investments

$$\text{Opportunity Cost} = \text{Total Cost} \times \frac{\text{Collection period}}{12} \times \frac{\text{Rate of Return}}{100}$$

Collection Period in months = 12 / Accounts Receivable Turnover Ratio

Present Policy = ₹ 35,00,000 × 3/12 × 25% = ₹ 2,18,750

Proposed Policy I = ₹ 42,00,000 × 4/12 × 25% = ₹ 3,50,000

Proposed Policy II = ₹ 47,25,000 × 5/12 × 25% = ₹ 4,92,188

ILLUSTRATION 14

A company is presently having credit sales of ₹ 12 lakh. The existing credit terms are 1/10, net 45 days and average collection period is 30 days. The current bad debts loss is 1.5%. In order to accelerate the collection process further as also to increase sales, the company is contemplating liberalization of its existing credit terms to 2/10, net 45 days. It is expected that sales are likely to increase by 1/3 of existing sales, bad debts increase to 2% of sales and average collection period to decline to 20 days. The contribution to sales ratio of the company is 22% and opportunity cost of investment in receivables is 15 percent (pre-tax). 50 per cent and 80 percent of customers in terms of sales revenue are expected to avail cash discount under existing and liberalization scheme respectively. The tax rate is 30%.

ADVISE, should the company change its credit terms? (Assume 360 days in a year).

SOLUTION

Working Notes:

(i) Calculation of Cash Discount

Cash Discount = Total credit sales × % of customers who take up discount × Rate

Present Policy = $\frac{12,00,000 \times 50 \times .01}{100}$ = ₹ 6,000

Proposed Policy = 16,00,000 × 0.80 × 0.02 = ₹ 25,600

(ii) Opportunity Cost of Investment in Receivables

Present Policy = 9,36,000 × (30/360) × (70% of 15)/100 = 78,000 × 10.5/100 = ₹ 8,190

Proposed Policy = 12,48,000 × (20/360) × 10.50/100 = ₹ 7,280

Statement showing Evaluation of Credit Policies

Particulars	Present Policy	Proposed Policy
Credit Sales	12,00,000	16,00,000
Variable Cost @ 78%* of sales	9,36,000	12,48,000
Bad Debts @ 1.5% and 2%	18,000	32,000
Cash Discount	6,000	25,600
Profit before tax	2,40,000	2,94,400
Tax @ 30%	72,000	88,320
Profit after Tax	1,68,000	2,06,080
Opportunity Cost of Investment in Receivables	8,190	7,280
Net Profit	1,59,810	1,98,800

*Only relevant or variable costs are considered for calculating the opportunity costs on the funds blocked in receivables. Since 22% is contribution, hence the relevant costs are taken to be 78% of the respective sales.

Advise: Proposed policy should be adopted since the net benefit is increased by (₹1,98,800 – ₹1,59,810) ₹ 38,990.

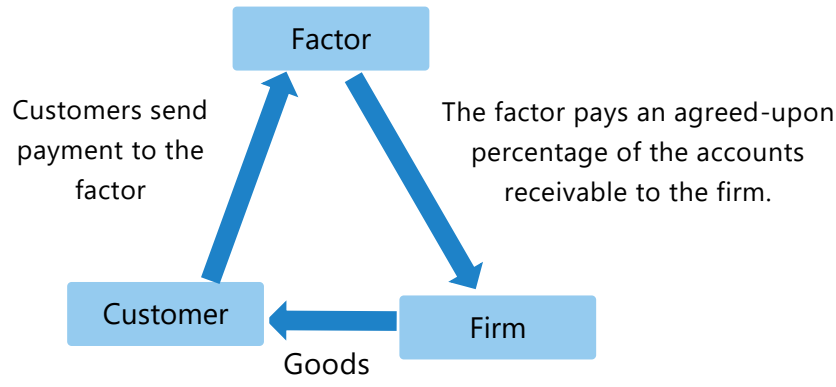
20. FINANCING RECEIVABLES

20.1 Pledging and Factoring

Pledging of accounts receivables and Factoring have emerged as the important sources of financing of accounts receivables now-a-days.

(i) **Pledging:** This refers to the use of a firm's receivable to secure a short term loan. After cash, a firm's receivables can be termed as its most liquid assets and this serve as prime collateral for a secured loan. The lender scrutinizes the quality of the account receivables, selects acceptable accounts, creates a lien on the collateral and fixes the percentage of financing receivables which ranges around 50 to 90%. The major advantage of pledging accounts receivables is the ease and flexibility it provides to the borrower. Moreover, financing is done regularly. This, however, suffers on account of high cost of financing. Also being a loan, it leaves an impact on the debt equity ratio as well by increasing the amount of debt.

(ii) **Factoring:** Factoring is a relatively new concept in financing of accounts receivables. This refers to outright sale of accounts receivables to a factor or a financial agency. A factor is a firm that acquires the receivables of other firms. The factoring lays down the conditions of the sale in a factoring agreement. The factoring agency bears the risk of collection and services the accounts for a fee.



Factoring arrangement can be either on a recourse basis or on a non-recourse basis:

- **Recourse**: In case factor is unable to collect the amount from receivables then, factor can turn back the same to the organization for resolution (which generally is by replacing those receivables with new receivables)
- **Non-Recourse**: The factor bears the ultimate risk of loss in case of default and hence in such cases they charge higher commission.

There are a number of financial institutions providing factoring services in India. Some commercial banks and other financial agencies provide this service. The biggest advantages of factoring are the immediate conversion of receivables into cash and predicted pattern of cash flows. Financing receivables with the help of factoring can help a company having liquidity **without creating a net liability on its financial condition** and hence no impact on debt equity ratio. Besides, factoring is a flexible financial tool providing timely funds, efficient record keepings and effective management of the collection process. This is not considered as a loan. There is no debt repayment and hence no compromise to balance sheet, no long-term agreements or delays associated with other methods of raising capital. Factoring allows the firm to use cash for the growth needs of business.

The basic format of evaluating factoring proposal is given as under:

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)] × $[\frac{\text{Collection Period (days)}}{360*} \times \text{Rate of Interest}]$	.....
	Total	.....
C.	**Net Annual Benefits/Cost of Factoring to the Firm:**	**A-B**
	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)	

*1 Year is taken as 360 days

Advise:

1. The company should avail Factoring services if rate of effective Cost of Factoring to the firm is less than the existing cost of borrowing or if availing services of factoring results in to positive Net Annual Benefits.
2. The company should not avail Factoring services if the Rate of Effective Cost of Factoring to the Firm is more than the existing cost of borrowing.

ILLUSTRATION 15

A Factoring firm has credit sales of ₹ 360 lakhs and its average collection period is 30 days. The financial controller estimates, bad debt losses are around 2% of credit sales. The firm spends ₹ 1,40,000 annually on debtor's 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 @15% p.a. after withholding 10% as reserve. ANALYSE what should the firm do?

Assume 360 days in a year.

SOLUTION

Working notes:

Average level of receivables = ₹ 360 lakhs × $\frac{30}{360}$ = 30 lakhs

Factoring Commission = 1% of ₹ 30,00,000	=	₹ 30,000
Reserve = 10% of ₹ 30,00,000	=	₹ 3,00,000
Total (i)	=	₹ 3,30,000

Thus, the amount available for advance is

Average level of receivables	₹ 30,00,000
Less: Total (i) from above	₹ 3,30,000
(ii)	₹ 26,70,000
Less: Interest @ 15% p.a. for 30 days	₹ 33,375
Net Amount of Advance available.	₹ 26,36,625

Evaluation of Factoring Proposal

	Particulars	₹	₹
A.	**Savings (Benefit) to the firm**		
	Cost of Credit administration	₹ 1,40,000	₹ 1,40,000
	Cost of bad-debt losses	(0.02 × 360 lakhs)	₹ 7,20,000
	Total		₹ 8,60,000

B.	**Cost to the Firm:**		
	Factoring Commission [Annual credit Sales × % of Commission (or calculated annually)]	$₹ 30,000 \times \frac{360}{30}$	₹ 3,60,000
	Interest Charges	$₹ 33,375 \times \frac{360}{30}$	₹ 4,00,500
	Total		₹ 7,60,500
C.	**Net Benefits to the Firm: (A-B)**		₹ 99,500

Advice: Since the savings to the firm exceeds the cost to the firm on account of factoring, therefore, the proposal is acceptable.

20.2 Forfaiting

Meaning of Forfaiting

'Forfait' is a French term which means "relinquish a right". Forfaiting is an arrangement of bill discounting in which a financial institution or bank buys the trade bills (invoices) or trade receivables from exporters of goods or services, where the exporter relinquish his right to receive payment from importer. Financial Institutions or banks provides immediate finance to exporter 'without recourse' basis in which risk and rewards related with the bills/ receivables transferred to the financial institutions/ banks. It is a unique credit facility arrangement where an overseas buyer (importer) can open a "letter of credit" (or other negotiable instruments) in favour of the exporter and can import goods and services on deferred payment terms.

Functions of Forfaiting

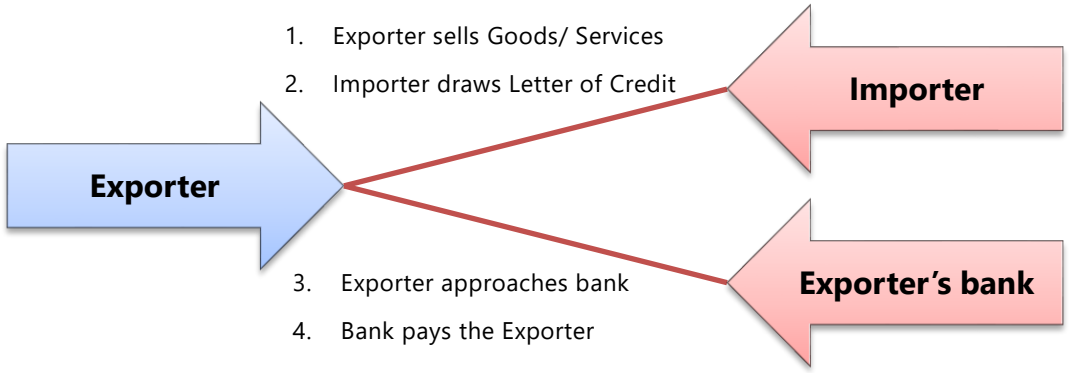
The functionality can be understood in the following manner:

(i) Exporter sells goods or services to an overseas buyer.

(ii) The overseas buyers i.e. the importer on the basis trade bills and import documents draws a letter of credit (or other negotiable instruments) through its bank (known as importer's bank).

(iii) The exporter on receiving the letter of credit (or other negotiable instruments) approaches to its bank (known as exporter's bank).

(iv) The exporter's bank buys the letter of credit (or other negotiable instruments) 'without recourse basis' and provides the exporter the payment for the bill.



Features of Forfaiting

The Salient features of forfaiting are:

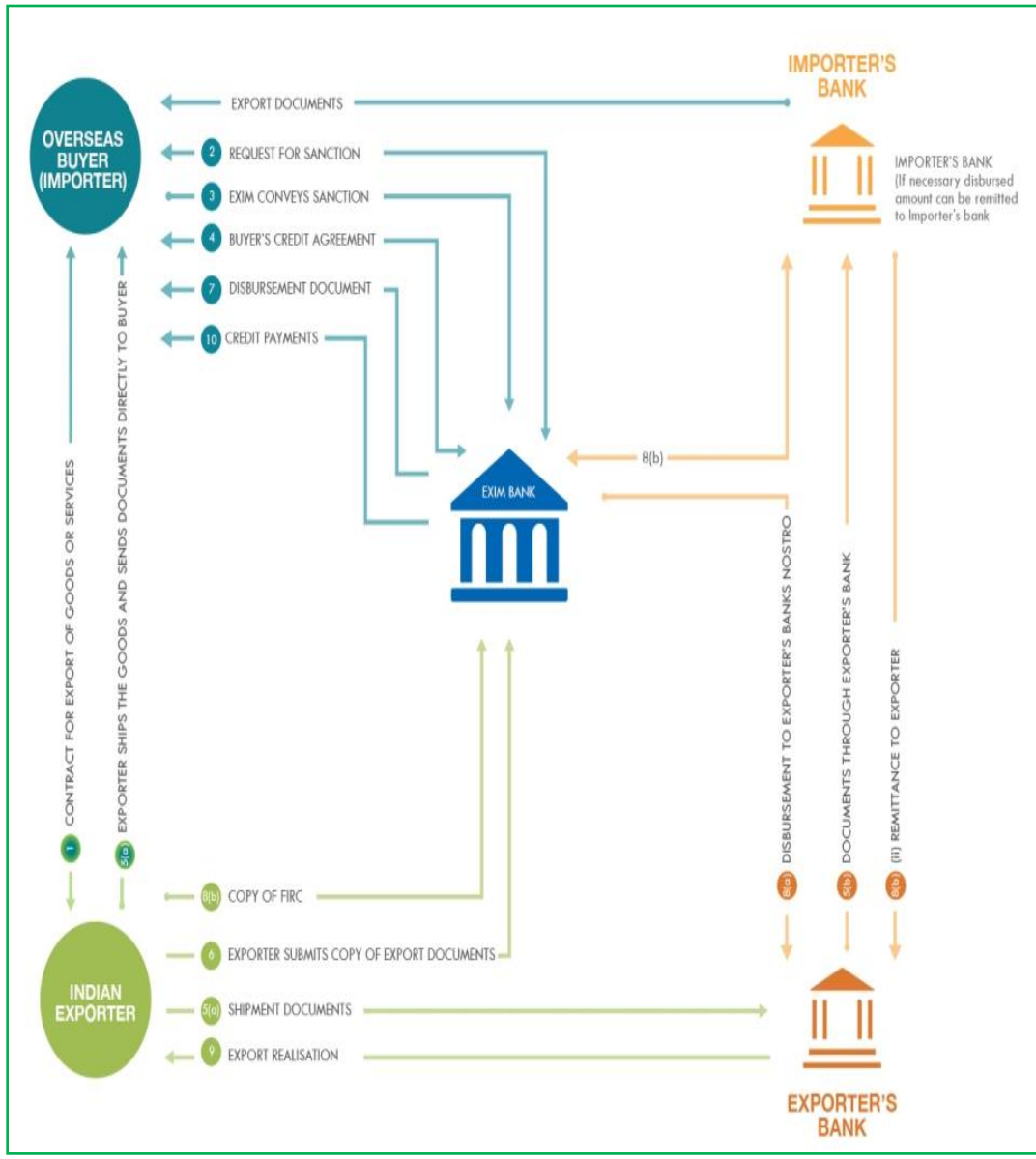
- It motivates exporters to **explore new geographies** as payment is assured.
- An overseas buyer (importer) can import goods and services on **deferred payment terms**.
- The exporter enjoys **reduced transaction costs and complexities** of international trade transactions.
- The exporter gets to **compete in the international market** and can continue to put his working capital to good use to scale up operations.
- While importers avail of forfaiting facility from international financial institutions in order to **finance their imports at competitive rates**.

Example of Forfaiting:

Exim Bank of India's 'Buyer's Credit' is an example of forfaiting arrangement. Buyer's Credit programme facilitates exports for SMEs by providing credit to overseas buyer to import goods from India. It is offering financing of capital goods or services on deferred payment terms and provides non-recourse finance to Indian

exporters by converting deferred credit contract into cash contract. It extends advance payments to Indian exporters on behalf of the overseas buyer.

The following is a diagrammatic illustration of Exim's Buyer's Credit:



(Source: https://www.eximbankindia.in/buyers-credit)

21. INNOVATIONS IN RECEIVABLE MANAGEMENT

During the recent years, a number of tools, techniques, practices and measures have been invented to increase effectiveness in accounts receivable management.

Following are the major determinants for significant innovations in accounts receivable management and process efficiency.

1. **Re-engineering Receivable Process:** In some of the organizations real cost reductions and performance improvements have been achieved by re-engineering in accounts receivable process. Re-engineering is a fundamental re-think and re-design of business processes by incorporating modern business approaches. The nature of accounts receivables is such that decisions made elsewhere in the organization are likely to affect the level of resources that are expended on the management of accounts receivables.

   The following aspects provide an opportunity to improve the management of accounts receivables:

   (a) Centralisation: Centralisation of high nature transactions of accounts receivables and payable is one of the practices for better efficiency. This focuses attention on specialized groups for speedy recovery.

   (b) Alternative Payment Strategies: Alternative payment strategies in addition to traditional practices result into efficiencies in the management of accounts receivables. It is observed that payment of accounts outstanding is likely to be quicker where a number of payment alternatives are made available to customers. Besides, this convenient payment method is a marketing tool that is of benefit in attracting and retaining customers. The following alternative modes of payment may also be used along with traditional methods like Cheque Book etc., for making timely payment, added customer service, reducing remittance processing costs and improved cash flows and better debtor turnover.

   (i) ***Direct debit:*** I.e., authorization for the transfer of funds from the purchaser's bank account.

   (ii) ***Integrated Voice Response (IVR):*** This system uses human operators and a computer-based system to allow customers to

make payment over phone. This system has proved to be beneficial in the organisations processing a large number of payments regularly.

(iii) ***Collection by a third party*:** The payment can be collected by an authorized external firm. The payments can be made by cash, cheque, credit card or Electronic fund transfer. Banks may also be acting as collecting agents of their customers and directly depositing the collections in customers' bank accounts.

(iv) ***Lock Box Processing:*** Under this system an outsourced partner captures cheques and invoice data and transmits the file to the client firm for processing in that firm's systems.

(v) ***Payments via Internet using fund transfer methods*** like RTGS, NEFT, IPMS UPIs, App based payment like Paytm, Phone Pe, etc.

(c) **Customer Orientation:** Where individual customers or a group of customers have some strategic importance to the firm a case study approach may be followed to develop good customer relations. A critical study of this group may lead to formation of a strategy for prompt settlement of debt.

2. **Evaluation of Risk:** Risk evaluation is a major component in the establishment of an effective control mechanism. Once risks have been properly assessed controls can be introduced to either contain the risk to an acceptable level or to eliminate them entirely. This also provides an opportunity for removing inefficient practices. This involves a re-think of processes and questioning the way that tasks are performed. This also opens the way for efficiency and effectiveness benefits in the management of accounts receivables.

3. **Use of Latest Technology:** Technological developments now-a-days provides an opportunity for improvement in accounts receivables process. The major innovations available are the integration of systems used in the management of accounts receivables, the automation and the use of e-commerce.

(a) **E-commerce** refers to the use of computer and electronic telecommunication technologies, particularly on an inter-organisational level, to support trading in goods and services. It uses technologies such as Electronic Data Inter-change (EDI), Electronic Mail, Electronic Funds Transfer (EFT) and Electronic Catalogue Systems to allow the buyer and seller to transact business by exchange of information between computer application systems such as Amazon, Flipkart etc.

(b) **Automated Accounts Receivable Management Systems**: Now-a-days all the big companies develop and maintain automated receivable management systems. Manual systems of recording the transactions and managing receivables are not only cumbersome but ultimately costly also. These integrated systems automatically update all the accounting records affected by a transaction. For example, if a transaction of credit sale is to be recorded, the system increases the amount the customer owes to the firm, reduces the inventory for the item purchased, and records the sale. This system of a company allows the application and tracking of receivables and collections, using the automated receivables system allows the company to store important information for an unlimited number of customers and transactions, and accommodate efficient processing of customer payments and adjustments.

4. **Receivable Collection Practices:** The aim of debtors' collection should be to reduce, monitor and control the accounts receivable at the same time maintain customer goodwill. The fundamental rule of sound receivable management should be to reduce the time lag between the sale and collection. Any delays that lengthen this span causes receivables to unnecessary build up and increase the risk of bad debts. This is equally true for the delays caused by billing and collection procedures as it is for delays caused by the customer.

The following are major receivable collection procedures and practices:

(i) Issue of Invoice.

(ii) Open account or open-end credit.

(iii) Credit terms or time limits.

(iv) Periodic statements and follow ups.

(v) Use of payment incentives and penalties.

(vi) Record keeping and Continuous Audit.

(vii) Export Factoring: Factors provide comprehensive credit management, loss protection collection services and provision of working capital to the firms exporting internationally.

(viii) Business Process Outsourcing: This refers to a strategic business tool whereby an outside agency takes over the entire responsibility for managing a business process like collections in this case.

5. Use of Financial tools/techniques: The finance manager while managing accounts receivables uses a number of financial tools and techniques. Some of them have been described hereby as follows:

(i) Credit analysis: While determining the credit terms, the firm has to evaluate individual customers in respect of their credit worthiness and the possibility of bad debts. For this purpose, the firm has to ascertain credit rating of prospective customers.

Credit rating: An important task for the finance manager is to rate the various debtors who seek credit facility. This involves decisions regarding individual parties so as to ascertain how much credit can be extended and for how long. In foreign countries specialized agencies are engaged in the task of providing rating information regarding individual parties. Dun and Broad street is one such source.

The finance manager has to look into the credit-worthiness of a party and sanction credit limit only after he is convinced that the party is sound. This would involve an analysis of the financial status of the party, its reputation and previous record of meeting commitments.

The credit manager here has to employ a number of sources to obtain credit information. The following are the important sources:

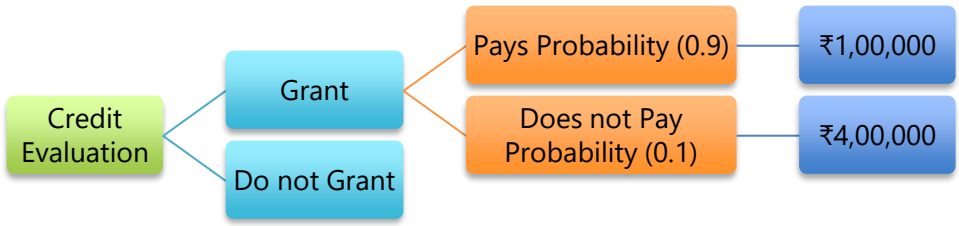
Trade references; Bank references; Credit bureau reports; Past experience; Published financial statements; and Salesman's interview and reports.

Once the credit-worthiness of a client is ascertained, the next question is to set a limit of the credit. This credit limit once set can be further enhanced as the favorable experience is gained while dealing with that client. In all such enquiries, the credit manager must be discreet and should always have the interest of high sales in view at the same time balancing any risk of non-collection.

(ii) Credit Granting - Decision tree analysis: The decision whether to grant credit or not is a decision involving costs and benefits. When a customer pays, the seller makes profit but when he fails to pay the amount of cost going into the product is also gone. If the relative chances of recovering the dues can be decided, it can form a probability distribution of payment or non-payment. If the chances of recovery are 9 out of 10 then probability of recovery is 0.9 and that of default is 0.1.

Credit evaluation of a customer shows that the probability of recovery is 0.9 and that of default is 0.1, the revenue from the order is ₹ 5 lakhs and cost is ₹ 4 lakhs. The decision is whether credit should be granted or not.

The analysis is presented in the following diagram.



The weighted net benefit is ₹ [1,00,000 × 0.9 i.e. 90,000 – 0.1 × 4,00,000 i.e. 40,000] = 50,000. So, credit should be granted.

(iii) Control of receivables: Another aspect of management of debtors is the control of receivables. Merely setting of standards and framing a credit policy

is not sufficient; it is, equally important to control receivables by constant monitoring and follow ups.

(iv) Collection policy: Efficient and timely collection of debtors ensures that the bad debt losses are reduced to the minimum and the average collection period is shorter. If a firm spends more resources on collection of debts, it is likely to have smaller bad debts. Thus, a firm must work out the optimum amount that it should spend on collection of debtors. This involves a trade-off between the level of expenditure on the one hand and decrease in bad debt losses and investment in debtors on the other.

The collection cell of a firm has to work in a manner that it does not create too much resentment amongst the customers. On the other hand, it has to keep the amount of the outstanding in check. Hence, it has to work in a very smoothen manner and diplomatically.

It is important that clear-cut procedures regarding credit collection are set up. Such procedures must answer questions like the following:

(a) How long should a debtor balance be allowed to exist before collection process is started?

(b) What should be the procedure of follow up with defaulting customer? How reminders are to be sent and how should and at what frequency, each successive reminder be drafted?

(c) Should there be collection machinery whereby personal calls by company's representatives are made?

(d) What should be the procedure for dealing with doubtful accounts? Is legal action to be instituted or some escalation matrix to be followed ? How should account be handled?

22. MONITORING OF RECEIVABLES

Constant monitoring of the current status of receivables is very essential for any organization to make sure that its receivables management is as effective as it should be. Various steps that constitute constant monitoring are:

(i) Computation of average age of receivables: It involves **computation of average collection period.**

(ii) Ageing Schedule: When receivables **are analysed according to their age**, the process is known as preparing the ageing schedules of receivables. The computation of average age of receivables is a quick and effective method of comparing the liquidity of receivables with the liquidity of receivables in the past and also comparing liquidity of one firm with the liquidity of the other competitive firm. It also helps the firm to predict collection pattern of receivables in future. This comparison can be made periodically.

The purpose of classifying receivables by age groups is to have a closer control over the quality of individual accounts. It requires going back to the receivables' ledger where the dates of each customer's purchases and payments are available. The ageing schedule, by indicating a tendency for old accounts to accumulate, provides a useful supplement to average collection period of receivables/sales analysis. Because an analysis of receivables in terms of associated dates of sales enables the firm to recognise the recent increases, and slumps in sales. To ascertain the condition of receivables for control purposes, it may be considered desirable to compare the current ageing schedule with an earlier ageing schedule in the same firm and also to compare this information with the experience of other firms. The following is an illustration of the ageing schedule of receivables:-

Ageing Schedule

Age Classes (Days)	As on 30th June, 2022			As on 30th September, 2022		
	Month of Sale	*Balance of Receivables*	*Percentage to total*	*Month of Sale*	*Balance of Receivables*	*Percentage to total*
		(₹)			*(₹)*	
1-30	June	41,500	11.9	September	1,00,000	22.7
31-60	May	74,200	21.4	August	2,50,000	56.8
61-90	April	1,85,600	53.4	July	48,000	10.9
91-120	March	35,300	10.2	June	40,000	9.1
121 and more	Earlier	10,800	3.1	Earlier	2,000	0.5
		3,47,400	100		4,40,000	100

The above ageing schedule shows a substantial improvement in the liquidity of receivables for the quarter ending September, 2022 as compared with the liquidity of receivables for the quarter ending June, 2022. It could be possible due to greater collection efforts of the firm.

(iii) Debt Collection Programme:

(a) **Monitoring** the state of receivables.

(b) **Intimation** to customers when due date approaches.

(c) **E-mail and telephonic** advice to customers on the due date.

(d) **Reminding** the legal recourse on overdue A/cs and follow escalation matrix if available.

(e) **Legal action** on overdue A/cs.

The following diagram shows the relationship between collection expenses and bad debt losses which have to be established as initial increase in collection expenses may have only a small impact on bad debt losses.

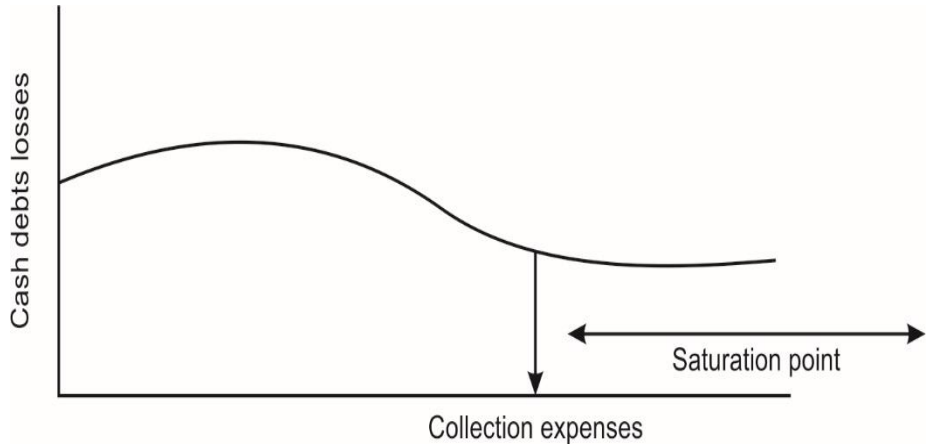


ILLUSTRATION 16

Mosaic Limited has current sales of ₹ 15 lakhs per year. Cost of sales is 75 per cent of sales and bad debts are one per cent of sales. Cost of sales comprises 80 per cent variable costs and 20 per cent fixed costs, while the company's required rate of return is 12 per cent. Mosaic Limited currently allows customers 30 days' credit, but is considering increasing this to 60 days' credit in order to increase sales.

It has been estimated that this change in policy will increase sales by 15 per cent, while bad debts will increase from one per cent to four per cent. It is not expected that the policy change will result in an increase in fixed costs and creditors and stock will be unchanged.

Should Mosaic Limited introduce the proposed policy? ANALYSE (Assume a 360 days year)

SOLUTION

New level of sales will be 15,00,000 × 1.15 = ₹ 17,25,000

Variable costs are 80% × 75% = 60% of sales

Contribution from sales is therefore 40% of sales

Fixed Cost are 20% × 75% = 15% of sales

Particulars	₹	₹
Proposed investment in debtors = Variable Cost + Fixed Cost* = (17,25,000 × 60%) + (15,00,000 × 15%) = (10,35,000 + 2,25,000) × $\frac{60}{360}$		2,10,000
Current investment in debtors = [(15,00,000 × 60%) + (15,00,000 × 15%)] × $\frac{30}{360}$		93,750
Increase in investment in debtors		1,16,250
Increase in contribution = 15% × 15,00,000 × 40%		90,000
New level of bad debts = (17,25,000 × 4%)	69,000	
Current level of bad debts (15,00,000 × 1%)	15,000	
Increase in bad debts		(54,000)
Additional financing costs = 1,16,250 × 12% =		(13,950)
Savings by introducing change in policy		22,050

* Fixed Cost is taken at existing level in case of proposed investment as well

Advise: Mosaic Limited should introduce the proposed policy.

UNIT - V
MANAGEMENT OF PAYABLES (CREDITORS)

23. INTRODUCTION

There is an old age saying in business that if you can buy well then you can sell well. Management of your creditors and suppliers is just as important as the management of your debtors.

Trade creditor is a spontaneous / short term source of finance in the sense that it arises from ordinary business transaction. But it is also important to look after your creditors - slow payment by you may create ill-feeling and your supplies could be disrupted and also create a bad image for your company.

Creditors are a vital part of effective cash management and should be managed carefully to enhance the cash position.

24. COST AND BENEFITS OF TRADE CREDIT

(a) Cost of Availing Trade Credit

Normally it is considered that the trade credit does not carry any cost. However, it carries the following costs:

(i) **Price:** There is often a discount on the price that the firm undergoes when it uses trade credit, since it can take advantage of the discount only if it pays immediately. This discount can translate into a high implicit cost.

(ii) **Loss of goodwill:** If the credit is overstepped, suppliers may discriminate against delinquent customers if supplies become short. As with the effect of any loss of goodwill, it depends very much on the relative market strengths of the parties involved.

(iii) **Cost of managing:** Management of creditors involves administrative and accounting costs that would otherwise be incurred.

(iv) **Conditions:** Sometimes most of the suppliers insist that for availing the credit facility the order should be of some minimum size or even on regular basis.

(b) Cost of Not Taking Trade Credit

On the other hand, the costs of not availing credit facilities are as under:

(i) Impact of Inflation: If inflation persists then the borrowers are favored over the lenders as they were better off to pay the fixed outstanding amount later than sooner. Also, the subsequent transactions shall be at higher prices.

(ii) Interest: Trade credit is a type of interest free loan, therefore failure to avail this facility has an interest cost. This cost is further increased if interest rates are higher.

(iii) Inconvenience: Sometimes it may also cause inconvenience to the supplier if the supplier is geared to the deferred payment.

25. COMPUTATION OF COST OF PAYABLES

By using the trade credit judiciously, a firm can reduce the effect of growth or burden on investments in Working Capital.

Now question arises how to calculate the cost of not taking the discount.

The following equation can be used to calculate nominal cost, on an annual basis of not taking the discount:

$$\frac{d}{100-d} \times \frac{365 \text{days}}{t}$$

However, the above formula does not take into account the compounding effect and therefore, the cost of credit shall be even higher. The cost of lost cash discount can be estimated by the formula:

$$\left(\frac{100}{100-d}\right)^{\frac{365}{t}} - 1$$

Where,

d = Size of discount i.e. for 6% discount, d = 6

t = The reduction in the payment period in days, necessary to obtain the early discount or Days Credit Outstanding – Discount Period.

ILLUSTRATION 17

Suppose ABC Ltd. has been offered credit terms from its major supplier of 2/10, net 45. Hence the company has the choice of paying ₹ 10 per ₹ 100 or to invest ₹ 98 for an additional 35 days and eventually pay the supplier ₹ 100 per ₹ 100. The decision as to whether the discount should be accepted depends on the opportunity cost of investing ₹ 98 for 35 days. ANALYSE what should the company do?

SOLUTION

If the company does not avail the cash discount and pays the amount after 45 days, the implied cost of interest per annum would be approximately:

$$\left(\frac{100}{100-2}\right)^{\frac{365}{35}} - 1 = 23.5\%$$

Now let us assume that ABC Ltd. can invest the additional cash and can obtain an annual return of 25% and if the amount of invoice is ₹ 10,000. The alternatives are as follows:

	Refuse discount	**Accept discount**
	₹	₹
Payment to supplier	10,000	9,800
Return from investing ₹ 9,800 between day 10 and day 45: $\frac{35}{365} \times ₹\ 9,800 \times 25\%$	(235)	
Net Cost	9,765	9,800

Advise: Thus, it is better for the company to refuse the discount, as return on cash retained is more than the saving on account of discount.

ILLUSTRATION 18

The Dolce Company purchases raw materials on terms of 2/10, net 30. A review of the company's records by the owner, Mr. Gautam, revealed that payments are usually made 15 days after purchases are made. When asked why the firm did not take advantage of its discounts, the accountant, Mr. Rohit, replied that it cost only 2 per cent for these funds, whereas a bank loan would cost the company 12 per cent.

(a) ANALYSE what mistake is Rohit making?

(b) If the firm could not borrow from the bank and was forced to resort to the use of trade credit funds, what suggestion might be made to Rohit that would reduce the annual interest cost? IDENTIFY.

SOLUTION

(a) Rohit's argument of comparing 2% discount with 12% bank loan rate is not rational as 2% discount can be earned by making payment 5 days in advance i.e. within 10 days rather 15 days as payments are made presently. Whereas 12% bank loan rate is for a year.

Assume that the purchase value is ₹100, the discount can be earned by making payment within 10 days is ₹2, therefore, net payment would be ₹98 only. Annualized benefit

$$= \frac{₹2}{₹98} \times \frac{365 \text{ days}}{5 \text{ days}} \times 100 = 149\%$$

This means cost of not taking cash discount is 149%.

(b) If the bank loan facility could not be available, then in this case the company should resort to utilise maximum credit period as possible.

Therefore, payment should be made in 30 days to reduce the interest cost.

UNIT – VI
FINANCING OF WORKING CAPITAL

26. INTRODUCTION

After determining the amount of working capital required, the next step to be taken by the finance manager is to arrange the funds.

As discussed earlier, it is advisable that the finance manager bifurcate the working capital requirements between the permanent working capital and temporary working capital.

The permanent working capital is always needed irrespective of sales fluctuation; hence it should be financed by the long-term sources such as debt and equity. On the contrary the temporary working capital may be financed by the short-term sources of finance.

Broadly speaking, the working capital finance may be classified between the two categories:

(i) Spontaneous sources; and

(ii) Negotiable sources.

Spontaneous Sources: Spontaneous sources of finance are those which naturally arise in the course of business operations. Trade credit, credit from employees, credit from suppliers of services, etc. are some of the examples which may be quoted in this respect.

Negotiated Sources: On the other hand, the negotiated sources, as the name implies, are those which have to be specifically negotiated with lenders say, commercial banks, financial institutions, general public etc.

The finance manager has to be very careful while selecting a particular source, or a combination thereof for financing of working capital. Generally, the following parameters will guide his decisions in this respect:

(i) Cost factor

(ii) Impact on credit rating

(iii) Feasibility

(iv) Reliability

(v) Restrictions

(vi) Hedging approach or matching approach i.e., Financing of assets with the same maturity as of assets.

27. SOURCES OF FINANCE

27.1 Spontaneous Sources of Finance

(a) Trade Credit: As outlined above trade credit is a spontaneous source of finance which is normally extended to the purchaser organization by the sellers or services providers. This source of financing working capital is more important since it contributes to about one-third of the total short-term requirements. The dependence on this source is higher due to lesser cost of finance as compared with other sources. Trade credit is guaranteed when a company acquires supplies, merchandise or materials and does not pay immediately. If a buyer is able to get the credit without completing much formality, it is termed as 'open account trade credit.'

(b) Bills Payable: On the other hand, in the case of "Bills Payable" the purchaser will have to give a written promise to pay the amount of the bill/invoice either on demand or at a fixed future date to the seller or the bearer of the note.

Due to its simplicity, easy availability and lesser explicit cost, the dependence on this source is much more in all small or big organizations. Especially, for small enterprises this form of credit is more helpful to small and medium enterprises. The amount of such financing depends on the volume of purchases and the payment timing.

(c) Accrued Expenses: Another spontaneous source of short-term financing is the accrued expenses or the outstanding expenses liabilities. The accrued expenses refer to the services availed by the firm, but the payment for which has yet to be made. It is a built in and an automatic source of finance as most of the services like wages, salaries, taxes, duties etc., are paid at the end of the period. The accrued

expenses represent an interest free source of finance. There is no explicit or implicit cost associated with the accrued expenses and the firm can ensure liquidity by accruing these expenses.

27.2 Inter-corporate Loans and Deposits

Sometimes, organizations having surplus funds invest for short-term period with other organizations. The rate of interest will be higher than the bank rate of interest and depends on the financial soundness of the borrower company. This source of finance reduces dependence on bank financing.

27.3 Commercial Papers

Commercial Paper (CP) is an unsecured promissory note issued by a firm to raise funds for a short period. This is an instrument that enables highly rated corporate borrowers for short-term borrowings and provides an additional financial instrument to investors with a freely negotiable interest rate. The maturity period ranges from minimum 7 days to less than 1 year from the date of issue. CP can be issued in denomination of ₹ 5 lakhs or multiples thereof.

Advantages of CP: From the point of the issuing company, CP provides the following benefits:

(a) CP is sold on an unsecured basis and does not contain any restrictive conditions.

(b) Maturing CP can be repaid by selling new CP and thus can provide a continuous source of funds.

(c) Maturity of CP can be tailored to suit the requirement of the issuing firm.

(d) CP can be issued as a source of fund even when money market is tight.

(e) Generally, the cost of CP to the issuing firm is lower than the cost of commercial bank loans.

However, CP as a source of financing has its own limitations:

(i) Only highly credit rating firms can use it. New and moderately rated firm generally are not in a position to issue CP.

(ii) CP can neither be redeemed before maturity nor can be extended beyond maturity.

27.4 Funds Generated from Operations

Funds generated from operations, during an accounting period, increase working capital by an equivalent amount. The two main components of funds generated from operations are profit and depreciation. Working capital will increase by the extent of funds generated from operations. Students may refer to funds flow statement given earlier in this chapter.

27.5 Public Deposits

Deposits from the public are one of the important sources of finance particularly for well-established big companies with huge capital base for short and medium-term.

27.6 Bills Discounting

Bill discounting is recognized as an important short-term Financial Instrument and it is widely used method of short-term financing. In a process of bill discounting, the supplier of goods draws a bill of exchange with direction to the buyer to pay a certain amount of money after a certain period, and gets its acceptance from the buyer or drawee of the bill.

27.7 Bill Rediscounting Scheme

The Bill rediscounting Scheme was introduced by Reserve Bank of India with effect from 1st November, 1970 in order to extend the use of the bill of exchange as an instrument for providing credit and the creation of a bill market in India with a facility for the rediscounting of eligible bills by banks. Under the bills rediscounting scheme, all licensed scheduled banks are eligible to offer bills of exchange to the Reserve Bank for rediscount.

27.8 Factoring

Students may refer to the unit on Receivable Management wherein the concept of factoring has been discussed. Factoring is a method of financing whereby a firm

sells its trade debts at a discount to a financial institution. In other words, factoring is a continuous arrangement between a financial institution, (namely the factor) and a firm (namely the client) which sells goods and services to trade customers on credit. As per this arrangement, the factor purchases the client's trade debts including accounts receivables either with or without recourse to the client, and thus, exercises control over the credit extended to the customers and administers the sales ledger of his client. To put it in a layman's language, a factor is an agent who collects the dues of his client for a certain fee.

The differences between Factoring and Bills discounting are as follows:

(i) Factoring is called as 'Invoice factoring' whereas bills discounting is known as "Invoice discounting".

(ii) In factoring the parties are known as client, factor and debtor whereas in bills discounting they are known as Drawer, Drawee and Payee.

(iii) Factoring is a sort of management of book debts whereas bills discounting is a sort of borrowing from commercial banks.

(iv) For factoring there is no specific Act; whereas in the case of bills discounting, the Negotiable Instrument Act is applicable.

28. WORKING CAPITAL FINANCE FROM BANKS

Banks in India today constitute the major suppliers of working capital credit to any business activity. Recently, some term lending financial institutions have also announced schemes for working capital financing. The two committees viz., Tandon Committee and Chore Committee have evolved definite guidelines and parameters in working capital financing, which have laid the foundations for development and innovation in the area.

28.1 Instructions on Working Capital Finance by Banks

Assessment of Working Capital

- Reserve Bank of India has withdrawn the prescription, in regard to assessment of working capital needs, based on the concept of Maximum Permissible Bank Finance (MPBF), in April 1997. Banks are now free to evolve, with the approval

of their Boards, methods for assessing the working capital requirements of borrowers, within the prudential guidelines and exposure norms prescribed. Banks, however, have to take into account Reserve Bank's instructions relating to directed credit (such as priority sector, export, etc.), and prohibition of credit (such as bridge finance, rediscounting of bills earlier discounted by NBFCs) while formulating their lending policies.

- With the above liberalizations, all the instructions relating to MPBF issued by RBI from time to time stand withdrawn. Further, various instructions/guidelines issued to banks with objective of ensuring lending discipline in appraisal, sanction, monitoring and utilization of bank finance cease to be mandatory. However, banks have the option of incorporating such of the instructions/guidelines as are considered necessary in their lending policies/procedures.

29. FORMS OF BANK CREDIT

The bank credit will generally be in the following forms:

- **Cash Credit:** This facility will be given by the banker to the customers by giving certain amount of credit facility on continuous basis. The borrower will not be allowed to exceed the limits sanctioned by the bank.
- **Bank Overdraft:** It is a short-term borrowing facility made available to the companies in case of urgent need of funds. The banks will impose limits on the amount they can lend. When the borrowed funds are no longer required they can quickly and easily be repaid. The banks issue overdrafts with a right to call them in at short notice.
- **Bills Discounting:** The Company which sells goods on credit will normally draw a bill on the buyer who will accept it and sends it to the seller of goods. The seller, in turn discounts the bill with his banker. The banker will generally earmark the discounting bill limit.
- **Bills Acceptance:** To obtain finance under this type of arrangement a company draws a bill of exchange on bank. The bank accepts the bill thereby promising to pay out the amount of the bill at some specified future date.

- **Line of Credit:** Line of Credit is a commitment by a bank to lend a certain amount of funds on demand specifying the maximum amount.
- **Letter of Credit:** It is an arrangement by which the issuing bank on the instructions of a customer or on its own behalf undertakes to pay or accept or negotiate or authorizes another bank to do so against stipulated documents subject to compliance with specified terms and conditions.
- **Bank Guarantees:** Bank guarantee is one of the facilities that the commercial banks extend on behalf of their clients in favour of third parties who will be the beneficiaries of the guarantees.

SUMMARY

- Working Capital Management involves managing the balance between firm's short-term assets and its short-term liabilities.
- From the value point of view, Working Capital can be defined as Gross Working Capital or Net Working Capital.
- From the point of view of time, the term working capital can be divided into two categories viz., Permanent and temporary.
- A large amount of working capital would mean that the company has idle funds. Since funds have a cost, the company has to pay huge amount as interest on such funds. If the firm has inadequate working capital, such firm runs the risk of insolvency.
- Some of the items/factors which need to be considered while planning for working capital requirement are nature of business, market and demand conditions, operating efficiency, credit policy etc.
- Finance manager has to pay particular attention to the levels of current assets and their financing. To decide the levels and financing of current assets, the risk return trade off must be taken into account.
- In determining the optimum level of current assets, the firm should balance the profitability – Solvency tangle by minimizing total costs.

- Working Capital cycle indicates the length of time between a company's paying for materials, entering into stock and receiving the cash from sales of finished goods. It can be determined by adding the number of days required for each stage in the cycle.
- Treasury management is defined as 'the corporate handling of all financial matters, the generation of external and internal funds for business, the management of currencies and cash flows and the complex, strategies, policies and procedures of corporate finance.
- The main objectives of cash management for a business are:-
  (a) Provide adequate cash to each of its units;
  (b) No funds are blocked in idle cash; and
  (c) The surplus cash (if any) should be invested in order to maximize returns for the business.
- Large amounts are tied up in sundry debtors, there are chances of bad debts and there will be cost of collection of debts. On the contrary, if the investment in sundry debtors is low, the sales may be restricted, since the competitors may offer more liberal terms. Therefore, management of sundry debtors is an important issue and requires proper policies and their implementation.
- There are basically three aspects of management of sundry debtors: Credit policy, Credit Analysis and Control of receivables.
- Trade creditor is a spontaneous source of finance in the sense that it arises from ordinary business transaction. But it is also important to look after your creditors - slow payment by you may create ill-feeling and your supplies could be disrupted and also create a bad image for your company.
- It is advisable that the finance manager bifurcates the working capital requirements between the permanent working capital and temporary working capital.
- The permanent working capital is always needed irrespective of sales fluctuations, hence should be financed by the long-term sources such as debt and equity. On the contrary the temporary working capital may be financed by the short-term sources of finance.

TEST YOUR KNOWLEDGE

Multiple Choice Questions (MCQs)

1. *The credit terms may be expressed as "3/15 net 60". This means that a 3% discount will be granted if the customer pays within 15 days, if he does not avail the offer, he must make payment within 60 days.*

   (a) I agree with the statement

   (b) I do not agree with the statement

   (c) I cannot say.

2. *The term 'net 50' implies that the customer will make payment:*

   (a) Exactly on 50^{th} day

   (b) Before 50^{th} day

   (c) Not later than 50^{th} day

   (d) None of the above.

3. *Trade credit is a source of :*

   (a) Long-term finance

   (b) Medium term finance

   (c) Spontaneous source of finance

   (d) None of the above.

4. *The term float is used in:*

   (a) Inventory Management

   (b) Receivable Management

   (c) Cash Management

   (d) Marketable securities.

5. *William J Baumol's model of Cash Management determines optimum cash level where the carrying cost and transaction cost are:*

   (a) Maximum

(b) *Minimum*

(c) *Medium*

(d) *None of the above.*

6. *In Miller – ORR Model of Cash Management:*

(a) *The lower, upper limit, and return point of Cash Balances are set out*

(b) *Only upper limit and return point are decided*

(c) *Only lower limit and return point are decided*

(d) *None of the above are decided.*

7. *Working Capital is defined as:*

(a) *Excess of current assets over current liabilities*

(b) *Excess of current liabilities over current assets*

(c) *Excess of Fixed Assets over long-term liabilities*

(d) *None of the above.*

8. *Working Capital is also known as "Circulating Capital, fluctuating Capital and revolving capital". The aforesaid statement is;*

(a) *Correct*

(b) *Incorrect*

(c) *Cannot say.*

9. *The basic objectives of Working Capital Management are:*

(a) *Optimum utilization of resources for profitability*

(b) *To meet day-to-day current obligations*

(c) *Ensuring marginal return on current assets is always more than cost of capital*

(d) *Select any one of the above statements.*

10. *The term Gross Working Capital is known as:*

(a) *The investment in current liabilities*

(b) The investment in long-term liability

(c) The investment in current assets

(d) None of the above.

11. The term net working capital refers to the difference between the current assets minus current liabilities.

(a) The statement is correct

(b) The statement is incorrect

(c) I cannot say.

12. The term "Core current assets' was coined by:

(a) Chore Committee

(b) Tandon Committee

(c) Jilani Committee

(d) None of the above.

13. The concept operating cycle refers to the average time which elapses between the acquisition of raw materials and the final cash realization. This statement is:

(a) Correct

(b) Incorrect

(c) Partially True

(d) I cannot say.

14. As a matter of self-imposed financial discipline can there be a situation of zero working capital now-a-days in some of the professionally managed organizations.

(a) Yes

(b) No

(c) Impossible

(d) Cannot say.

15. *Over trading arises when a business expands beyond the level of funds available. The statement is:*

    (a) Incorrect

    (b) Correct

    (c) Partially correct

    (d) I cannot say.

16. *A Conservative Working Capital strategy calls for high levels of current assets in relation to sales.*

    (a) I agree

    (b) Do not agree

    (c) I cannot say.

17. *The term Working Capital leverage refer to the impact of level of working capital on company's profitability. This measures the responsiveness of ROCE for changes in current assets.*

    (a) I agree

    (b) Do not agree

    (c) The statement is partially true.

18. *The term spontaneous source of finance refers to the finance which naturally arise in the course of business operations. The statement is:*

    (a) Correct

    (b) Incorrect

    (c) Partially Correct

    (d) I cannot say.

19. *Under hedging approach to financing of working capital requirements of a firm, each asset in the balance sheet assets side would be offset with a financing instrument of the same approximate maturity. This statement is:*

    (a) Incorrect

(b) *Correct*

(c) *Partially correct*

(d) *I cannot say.*

20. *Trade credit is a:*

(a) *Negotiated source of finance*

(b) *Hybrid source of finance*

(c) *Spontaneous source of finance*

(d) *None of the above.*

21. *Factoring is a method of financing whereby a firm sells its trade debts at a discount to a financial institution. The statement is:*

(a) *Correct*

(b) *Incorrect*

(c) *Partially correct*

(d) *I cannot say.*

22. *A factoring arrangement can be both with recourse as well as without recourse:*

(a) *True*

(b) *False*

(c) *Partially correct*

(d) *Cannot say.*

23. *The Bank financing of working capital will generally be in the following form. Cash Credit, Overdraft, bills discounting, bills acceptance, line of credit; Letter of credit and bank guarantee.*

(a) *I agree*

(b) *I do not agree*

(c) *I cannot say.*

24. *When the items of inventory are classified according to value of usage, the technique is known as:*

    (a) XYZ Analysis

    (b) ABC Analysis

    (c) DEF Analysis

    (d) None of the above.

25. *When a firm advises its customers to mail their payments to special Post Office collection centers, the system is known as.*

    (a) Concentration banking

    (b) Lock Box system

    (c) Playing the float

    (d) None of the above.

Theoretical Questions

1. *DISCUSS the factors to be taken into consideration while determining the requirement of working capital.*
2. *DISCUSS the liquidity vs. profitability issue in management of working capital.*
3. *DISCUSS the estimation of working capital need based on operating cycle process.*
4. *EXPLAIN briefly the functions of Treasury Department.*
5. *EXPLAIN Baumol's Model of Cash Management.*
6. *STATE the advantage of Electronic Cash Management System.*
7. *EXPLAIN with example the formula used for determining optimum cash balance according to Baumol's cash management model.*
8. *DISCUSS Miller-Orr Cash Management model.*
9. *EXPLAIN briefly the accounts receivable systems.*
10. *DESCRIBE Factoring.*

11. *DESCRIBE the various forms of bank credit in financing the working capital of a business organization.*

Practical Problems

1. *Following information is forecasted by R Limited for the year ending 31st March, 2022:*

	Balance as at 31st March, 2022	**Balance as at 31st March, 2021**
	(₹ in lakh)	**(₹ in lakh)**
Raw Material	*65*	*45*
Work-in-progress	*51*	*35*
Finished goods	*70*	*60*
Receivables	*135*	*112*
Payables	*71*	*68*
Annual purchases of raw material (all credit)	*400*	
Annual cost of production	*450*	
Annual cost of goods sold	*525*	
Annual operating cost	*325*	
Annual sales (all credit)	*585*	

You may take one year as equal to 365 days.

You are required to CALCULATE:

(i) Net operating cycle period.

(ii) Number of operating cycles in the year.

(iii) Amount of working capital requirement.

2. *The following data relating to an auto component manufacturing company is available for the year 2021-22:*

Raw material held in storage *20 days*

Receivables' collection period	*30 days*
Conversion process period	*10 days*
(raw material – 100%, other costs – 50% complete)	
Finished goods storage period	*45 days*
Credit period from suppliers	*60 days*
Advance payment to suppliers	*5 days*
Total cash operating expenses per annum	*₹ 800 lakhs*

75% of the total cash operating expenses are for raw material. 360 days are assumed in a year.

You are required to CALCULATE:

(i) Each item of current assets and current liabilities,

(ii) The working capital requirement, if the company wants to maintain a cash balance of ₹ 10 lakhs at all times.

3. *The following figures and ratios are related to a company:*

(i)	*Sales for the year (all credit)*	*₹ 90,00,000*
(ii)	*Gross Profit ratio*	*35 percent*
(iii)	*Fixed assets turnover (based on cost of goods sold)*	*1.5*
(iv)	*Stock turnover (based on cost of goods sold)*	*6*
(v)	*Liquid ratio*	*1.5:1*
(vi)	*Current ratio*	*2.5:1*
(vii)	*Receivables (Debtors) collection period*	*1 month*
(viii)	*Reserves and surplus to Share capital*	*1:1.5*
(ix)	*Capital gearing ratio*	*0.7875*
(x)	*Fixed assets to net worth*	*1.3 : 1*

You are required to PREPARE:

(a) Balance Sheet of the company on the basis of above details.

(b) The statement showing working capital requirement, if the company wants to make a provision for contingencies @15 percent of net working capital.

4. PQ Ltd., a company newly commencing business in 2021-22 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 figure given above 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 ₹ 8,000 in cash. 10% has to be added to the estimated figure for unforeseen contingencies.

PREPARE an estimate of working capital.

Note: All workings should form part of the answer.

5. *M.A. Limited is commencing a new project for manufacture of a plastic component. The following cost information has been ascertained for annual production of 12,000 units which is the full capacity:*

	Costs per unit (₹)
Materials	*40.00*
Direct labour and variable expenses	*20.00*
Fixed manufacturing expenses	*6.00*
Depreciation	*10.00*
Fixed administration expenses	*4.00*
	80.00

The selling price per unit is expected to be ₹ 96 and the selling expenses ₹ 5 per unit, 80% of which is variable.

In the first two years of operations, production and sales are expected to be as follows:

Year	**Production (No. of units)**	**Sales (No. of units)**
1	*6,000*	*5,000*
2	*9,000*	*8,500*

To assess the working capital requirements, the following additional information is available:

(a) Stock of materials 2.25 months' average consumption

(b) Work-in-process Nil

(c)	*Debtors*	*1 month's average sales.*
(d)	*Cash balance*	*₹ 10,000*
(e)	*Creditors for supply of materials*	*1 month's average purchase during the year.*
(f)	*Creditors for expenses*	*1 month's average of all expenses during the year.*

PREPARE, for the two years:

(i) A projected statement of Profit/Loss (Ignoring taxation); and

(ii) A projected statement of working capital requirements.

6. *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.

7. *The management of Trux Company Ltd. is planning to expand its business and consults you to prepare an estimated working capital statement. The records of the company reveals the following annual information:*

	(₹)
Sales – Domestic at one month's credit	*18,00,000*
Export at three month's credit (sales price 10% below domestic price)	*8,10,000*
Materials used (suppliers extend two months credit)	*6,75,000*
Lag in payment of wages – ½ month	*5,40,000*
Lag in payment of manufacturing expenses (cash) – 1 month	*7,65,000*
Lag in payment of Administration Expenses – 1 month	*1,80,000*
Selling expenses payable quarterly in advance	*1,12,500*
Income tax payable in four installments, of which one falls in the next financial year	*1,68,000*

Rate of gross profit is 20%. Ignore work-in-progress and depreciation.

The company keeps one month's stock of raw materials and finished goods (each) and believes in keeping ₹ 2,50,000 available to it including the overdraft limit of ₹ 75,000 not yet utilized by the company.

The management is also of the opinion to make 10% margin for contingencies on computed figure.

You are required to PREPARE the estimated working capital statement for the next year.

8. *The following information relates to Zeta Limited, a publishing company:*

The selling price of a book is ₹ 15, and sales are made on credit through a book club and invoiced on the last day of the month.

Variable costs of production per book are materials (₹ 5), labour (₹ 4), and overhead (₹ 2)

The sales manager has forecasted the following volumes:

Month	No. of Books
November	1,000
December	1,000
January	1,000
February	1,250
March	1,500
April	2,000
May	1,900
June	2,200
July	2,200
August	2,300

Customers are expected to pay as follows:

One month after the sale	40%
Two months after the sale	60%

The company produces the books two months before they are sold and the creditors for materials are paid two months after production.

Variable overheads are paid in the month following production and are expected to increase by 25% in April; 75% of wages are paid in the month of production and 25% in the following month. A wage increase of 12.5% will take place on 1st March.

The company is going through a restructuring and will sell one of its freehold properties in May for ₹25,000, but it is also planning to buy a new printing press in May for ₹10,000. Depreciation is currently ₹1,000 per month, and will rise to ₹1,500 after the purchase of the new machine.

The company's corporation tax (of ₹10,000) is due for payment in March.

The company presently has a cash balance at bank on 31 December 2021, of ₹1,500.

You are required to PREPARE a cash budget for the six months from January to June, 2022.

9. *From the information and the assumption that the cash balance in hand on 1st January 2022 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

10. *Consider the balance sheet of Maya Limited as on 31 December, 2022. The company has received a large order and anticipates the need to go to its bank to increase its borrowings. As a result, it has to forecast its cash requirements for January, February and March, 2023. Typically, the company collects 20 per cent of its sales in the month of sale, 70 per cent in the subsequent month, and 10 per cent in the second month after the sale. All sales are credit sales.*

Equity & liabilities	Amount (₹ in '000)	Assets	Amount (₹ in '000)
Equity shares capital	100	Net fixed assets	1,836
Retained earnings	1,439	Inventories	545
Long-term borrowings	450	Accounts receivables	530

Accounts payables	*360*	*Cash and bank*	*50*
Loan from banks	*400*		
Other liabilities	*212*		
	2,961		*2,961*

Purchases of raw materials are made in the month prior to the sale and amounts to 60 per cent of sales. Payments for these purchases occur in the month after the purchase. Labour costs, including overtime, are expected to be ₹ 1,50,000 in January, ₹ 2,00,000 in February, and ₹ 1,60,000 in March. Selling, administrative, taxes, and other cash expenses are expected to be ₹ 1,00,000 per month for January through March. Actual sales in November and December and projected sales for January through April are as follows (in thousands):

Month	**₹**	**Month**	**₹**	**Month**	**₹**
November	*500*	*January*	*600*	*March*	*650*
December	*600*	*February*	*1,000*	*April*	*750*

On the basis of this information:

(a) PREPARE a cash budget and DETERMINE the amount of additional bank borrowings necessary to maintain a cash balance of ₹ 50,000 at all times for the months of January, February, and March.

(b) PREPARE a pro forma balance sheet for March 31.

11. *PQR Ltd. having an annual sales of ₹ 30 lakhs, is re-considering its present collection policy. At present, the average collection period is 50 days and the bad debt losses are 5% of sales. The company is incurring an expenditure of ₹ 30,000 on account of collection of receivables. Cost of funds is 10 percent.*

The alternative policies are as under:

	Alternative I	**Alternative II**
Average Collection Period	*40 days*	*30 days*
Bad Debt Losses	*4% of sales*	*3% of sales*
Collection Expenses	*₹ 60,000*	*₹ 95,000*

DETERMINE the alternatives on the basis of incremental approach and state which alternative is more beneficial.

12. *As a part of the strategy to increase sales and profits, the sales manager of a company proposes to sell goods to a group of new customers with 10% risk of non-payment. This group would require one and a half months credit and is likely to increase sales by ₹ 1,00,000 p.a. Production and Selling expenses amount to 80% of sales and the income-tax rate is 50%. The company's minimum required rate of return (after tax) is 25%.*

Should the sales manager's proposal be accepted? ANALYSE

Also COMPUTE the degree of risk of non-payment that the company should be willing to assume if the required rate of return (after tax) were (i) 30%, (ii) 40% and (iii) 60%.

13. *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 2021-22, 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.

14. *PREPARE a working capital estimate to finance an activity level of 52,000 units a year (52 weeks) based on the following data:*

Raw Materials	-	*₹ 400 per unit*
Direct Wages	-	*₹ 150 per unit*

Overheads (Manufacturing) - ₹200 per unit

Overheads (Selling & Distribution) - ₹100 per unit

Selling Price - ₹ 1,000 per unit, Raw materials & Finished Goods remain in stock for 4 weeks, Work in process takes 4 weeks. Debtors are allowed 8 weeks for payment whereas creditors allow us 4 weeks. Finished goods are valued at cost of sales.

Minimum cash balance expected is ₹ 50,000. Receivables are valued at Selling Price.

Case Scenarios

1. *ArMore LLP is a newly established startup dealing in manufacture of a revolutionary product HDHMR which is a substitute to conventional wood and plywood. It is an economical substitute for manufacture of furniture and home furnishing. It has been asked by a venture capitalist for an estimated amount of funds required for setting up plant and also the amount of circulating capital required. A consultant hired by the entity has advised that the cost of setting up the plant would be ₹ 5 Crores and it will require 1 year to make the plant operational. The anticipated revenue and associated cost numbers are as follows:*

Units to be sold = 3 lakh sq metres p.a.

Sale Price of each sq mtr = ₹ 1000

Raw Material cost = ₹ 200 per sq mtr

Labour cost = ₹ 50 per hour

Labour hours per sq mtr = 3 hours

Cash Manufacturing Overheads = ₹ 75 per machine hour

Machine hours per sq mtr = 2 hours

Selling and credit administration Overheads = ₹ 250 per sq mtr

Being a new product in the industry, the firm will have to give a longer credit period of 3 months to its customers. It will maintain a stock of raw material equal to 15% of annual consumption. Based on negotiation with the creditors, the payment period has been agreed to be 1 month from the date of purchase. The entity will hold finished goods equal to 2 months of units to be sold. All

other expenses are to be paid one month in arrears. Cash and Bank balance to the tune of ₹25,00,000 is required to be maintained.

The entity is also considering reducing the working capital requirement by either of the two options: a) reducing the credit period to customers by a month which will lead to reduction in sales by 5%. b) Engaging with a factor for managing the receivables, who will charge a commission of 2% of invoice value and will also advance 65% of receivables @ 12% p.a. This will lead to savings in administration and bad debts cost to the extent of ₹20 lakhs and 16 lakhs respectively.

The entity is also considering funding a part of working capital by bank loan. For this purpose, bank has stipulated that it will grant 75% of net current assets as advance against working capital. The bank has quoted 16.5% rate of interest with a condition of opening a current account with it, which will require 10% of loan amount to be minimum average balance.

You being an finance manager, has been asked the following questions:

(i) The anticipated profit before tax per annum after the plant is operational is .....

(a) *₹750 Lakhs*

(b) *₹570 Lakhs*

(c) *₹370 Lakhs*

(d) *₹525 Lakhs*

(ii) The estimated current assets requirement in the first year of operation (debtors calculated at cost) is .....

(a) *₹9,42,50,000*

(b) *₹2,17,08,333*

(c) *₹7,25,41,667*

(d) *₹67,08,333*

(iii) The net working capital requirement for the first year of operation is .....

(a) *₹9,42,50,000*

(b) *₹2,17,08,333*

(c) *₹7,25,41,667*

(d) *₹67,08,333*

(iv) The annualised % cost of two options for reducing the working capital is .....

(a) *18.18% and 16.92%*

(b) *18.33% and 16.92%*

(c) *18.59% and 18.33%*

(d) *16.92% and 19.05%*

(v) What will be the Maximum Permissible Bank Finance by the bank and annualised % cost of the same?

(a) *₹4,55,03,630 and 18.33%*

(b) *₹5,44,06,250 and 18.33%*

(c) *₹4,45,86,025 and 18.59%*

(d) *₹3,45,89,020 and 19.85%*

ANSWERS/SOLUTIONS

Answers to the MCQs

1.	(a)	**2.**	(c)	**3.**	(c)	**4.**	(c)	**5.**	(b)	**6.**	(a)
7.	(a)	**8.**	(a)	**9.**	(b)	**10.**	(c)	**11.**	(a)	**12.**	(b)
13.	(a)	**14.**	(a)	**15.**	(b)	**16.**	(a)	**17.**	(a)	**18.**	(a)
19.	(b)	**20.**	(c)	**21.**	(a)	**22.**	(a)	**23.**	(a)	**24.**	(b)
25.	(b)										

Answers to the Theoretical Questions

1. Please refer paragraph 9.3

2. Please refer paragraph 9.4.1

3. Please refer paragraph 9.5

4. Please refer paragraph 9.8

5. Please refer paragraph 9.11.1

6. Please refer paragraph 9.12.6

7. Please refer paragraph 9.11.1

8. Please refer paragraph 9.11.2

9. Please refer paragraph 9.21

10. Please refer paragraph 9.20

11. Please refer paragraph 9.29

Answers to the Practical Problems

1. Working Notes:

1. **Raw Material Storage Period (R)**

$$= \frac{\text{Average Stock of Raw Material}}{\text{Annual Consumption of Raw Material}} \times 365$$

$$= \frac{\frac{₹45+₹65}{2}}{₹380} \times 365 = 52.83 \text{ or } 53 \text{ days}$$

Annual Consumption of Raw Material = Opening Stock + Purchases - Closing Stock

= ₹45 + ₹400 – ₹65 = ₹380 lakh

2. **Work – in - Progress (WIP) Conversion Period (W)**

$$= \frac{\text{Average Stock of WIP}}{\text{Annual Cost of Production}} \times 365$$

$$= \frac{\frac{₹35+₹51}{2}}{₹450} \times 365 = 34.87 \text{ or } 35 \text{ days}$$

3. **Finished Stock Storage Period (F)**

$$= \frac{\text{Average Stock of Finished Goods}}{\text{Cost of Goods Sold}} \times 365$$

$$= \frac{\frac{₹60+₹70}{2}}{₹525} \times 365 = 45.19 \text{ or } 45 \text{ days.}$$

4. **Receivables (Debtors) Collection Period (D)**

$$= \frac{\text{Average Receivables}}{\text{Annual Credit Sales}} \times 365$$

$$= \frac{\frac{₹112 + ₹135}{2}}{₹585} \times 365 = \quad 77.05 \text{ or } 77 \text{ days}$$

5. **Payables (Creditors) Payment Period (C)**

$$= \frac{\text{Average Payables for materials}}{\text{Annual Credit purchases}} \times 365$$

$$= \frac{\frac{₹68 + ₹71}{2}}{₹400} \times 365 = 63.41 \text{ or } 64 \text{ days}$$

(i) Net Operating Cycle Period

= R + W + F + D - C

= 53 + 35 + 45 + 77 – 64 = 146 days

(ii) Number of Operating Cycles in the Year

$$= \frac{365}{\text{Operating Cycle Period}} = \frac{365}{146} = 2.5 \text{ times}$$

(iii) Amount of Working Capital Required

$$= \frac{\text{Annual Operating Cost}}{\text{Number of Operating Cycles}} = \frac{₹\ 325}{2.50} = ₹\ 130 \text{ lakh}$$

2. Since WIP is 100% complete in terms of material and 50% complete in terms of other cost, the same has been considered for number of days for WIP inventory i.e. 10 days for material and 5 days for other costs respectively.

Particulars	For Raw Material	For Other Costs	Total
Cash Operating expenses	$\frac{75}{100} \times 800 = 600$	$\frac{25}{100} \times 800 = 200$	800.00
Raw Material Stock Holding	$\frac{20}{360} \times 600 = 33.33$	-	33.33

WIP Conversion	$\frac{10}{360} \times 600 = 16.67$	$\frac{5}{360} \times 200 = 2.78$	19.45
Finished Goods Stock Holding	$\frac{45}{360} \times 600 = 75$	$\frac{45}{360} \times 200 = 25$	100.00
Receivable Collection Period	$\frac{30}{360} \times 600 = 50$	$\frac{30}{360} \times 200 = 16.67$	66.67
Advance to suppliers	$\frac{5}{360} \times 600 = 8.33$	-	8.33
Credit Period from suppliers	$\frac{60}{360} \times 600 = 100$	-	100.00

Computation of working capital

	₹ in lakhs
Raw Material Stock	33.33
WIP	19.45
Finished Goods stock	100.00
Receivables	66.67
Advance to Suppliers	8.33
Cash	10.00
	237.78
Less: Payables (Creditors)	100.00
Working capital	133.78

3. Working Notes:

(i) Cost of Goods Sold = Sales – Gross Profit (35% of Sales)

= ₹ 90,00,000 – ₹ 31,50,000

= ₹ 58,50,000

(ii) Closing Stock = Cost of Goods Sold / Stock Turnover

= ₹ 58,50,000/6 = ₹ 9,75,000

(iii) Fixed Assets = Cost of Goods Sold / Fixed Assets Turnover

= ₹ 58,50,000/1.5

= ₹ 39,00,000

(iv) Current Assets and Current Liabilities

Current Ratio = 2.5 and Liquid Ratio = 1.5

CA / CL = 2.5 ... (i)

(CA – Inventories) / CL = 1.5 ...(ii)

By subtracting equation (ii) from (i), we get,

Inventories / CL = 1

Current Liabilities = Inventories (stock) = ₹ 9,75,000

∴ Current Assets = ₹ 9,75,000 x 2.5 = ₹ 24,37,500

Or

Current Ratio / Quick Ratio = Current Assets / Quick Assets

2.5 / 1.5 = Current Assets / (Current Assets – Inventory)

2.5/1.5 Current Assets – 2.5/1.5 x ₹ 9,75,000 = Current Assets

Hence, Current Assets = ₹ 24,37,500

(v) Liquid Assets (Receivables and Cash)

= Current Assets – Inventories (Stock)

= ₹ 24,37,500 – ₹ 9,75,000

= ₹14,62,500

(vi) Receivables (Debtors) = Sales × Debtors Collection period /12

= ₹ 90,00,000 × 1/12

= ₹ 7,50,000

(vii) Cash = Liquid Assets – Receivables (Debtors)

= ₹14,62,500 – ₹ 7,50,000 = ₹ 7,12,500

(viii) Net worth = Fixed Assets /1.3

= ₹ 39,00,000/1.3 = ₹ 30,00,000

(ix) Reserves and Surplus

Reserves and Surplus / Share Capital = 1/1.5

Share Capital= 1.5 Reserves and Surplus ... (i)

Now, Reserves and Surplus + Share Capital = Net worth ... (ii)

From (i) and (ii), we get,

2.5 Reserves and Surplus = Net worth

Reserves and Surplus = ₹ 30,00,000 / 2.5 = ₹ 12,00,000

(x) Share Capital = Net worth – Reserves and Surplus

= ₹ 30,00,000 – ₹ 12,00,000

= ₹ 18,00,000

(xi) Long-term Debts

Capital Gearing Ratio = Long-term Debts / Equity Shareholders' Fund

Long-term Debts = ₹ 30,00,000 × 0.7875 = ₹ 23,62,500

(a) Balance Sheet of the Company

Particulars		**Figures as the end of 31-03-2021 (₹)**	**Figures as the end of 31-03-2020 (₹)**
I.	**EQUITY AND LIABILITIES**		
	Shareholders' funds		
	(a) Share capital	18,00,000	-
	(b) Reserves and surplus	12,00,000	-
	Non-current liabilities		
	(a) Long-term borrowings	23,62,500	-
	Current liabilities	9,75,000	-
	TOTAL	**63,37,500**	**-**
II.	**ASSETS**		
	Non-current assets		
	Fixed assets	39,00,000	-

	Current assets		
	Inventories	9,75,000	-
	Trade receivables	7,50,000	-
	Cash and cash equivalents	7,12,500	-
	TOTAL	**63,37,500**	**-**

(b) Statement Showing Working Capital Requirement

		(₹)	(₹)
A.	Current Assets		
	(i) Inventories (Stocks)		9,75,000
	(ii) Receivables (Debtors)		7,50,000
	(iii) Cash in hand & at bank		7,12,500
	Total Current Assets		24,37,500
B.	Current Liabilities:		
	Total Current Liabilities		9,75,000
	Net Working Capital (A – B)		14,62,500
	Add: Provision for contingencies (15% of Net Working Capital)		2,19,375
	Working capital requirement		16,81,875

4. Statement showing the requirements of Working Capital

Particulars		(₹)	(₹)
A.	**Current Assets:**		
	Inventory:		
	Stock of Raw material (₹ 96,600 × 2/12)	16,100	
	Stock of Work-in-progress (As per Working Note)	16,350	
	Stock of Finished goods (₹ 1,46,500 × 10/100)	14,650	
	Receivables (Debtors) (₹1,27,080 × 2/12)	21,180	
	Cash in Hand	8,000	
	Prepaid Expenses:		

	Wages & Mfg. Expenses (₹ 66,250 × 1/12)	5,521	
	Administrative expenses (₹ 14,000 × 1/12)	1,167	
	Selling & Distribution Expenses (₹13,000 × 1/12)	1,083	
	Advance taxes paid {(70% of ₹10,000) × 3/12}	1,750	
	Gross Working Capital	85,801	85,801
B.	**Current Liabilities:**		
	Payables for Raw materials (₹1,12,700 × 1.5/12)	14,088	
	Provision for Taxation (Net of Advance Tax) (₹10,000 × 30/100)	3,000	
	Total Current Liabilities	17,088	17,088
C.	**Excess of CA over CL**		68,713
	Add: 10% for unforeseen contingencies		6,871
Net Working Capital requirements			75,584

Working Notes:

(i) Calculation of Stock of Work-in-progress

Particulars	**(₹)**
Raw Material (₹ 84,000 × 15%)	12,600
Wages & Mfg. Expenses (₹ 62,500 × 15% × 40%)	3,750
Total	16,350

(ii) Calculation of Stock of Finished Goods and Cost of Sales

Particulars	**(₹)**
Direct material Cost [₹ 84,000 + ₹ 12,600]	96,600
Wages & Mfg. Expenses [₹62,500 + ₹ 3,750]	66,250
Depreciation	0
Gross Factory Cost	1,62,850
Less: Closing W.I.P	(16,350)
Cost of goods produced	1,46,500

Add: Administrative Expenses	14,000
	1,60,500
Less: Closing stock	(14,650)
Cost of Goods Sold	1,45,850
Add: Selling and Distribution Expenses	13,000
Total Cash Cost of Sales	1,58,850
Debtors (80% of cash cost of sales)	1,27,080

(iii) Calculation of Credit Purchase

Particulars	**(₹)**
Raw material consumed	96,600
Add: Closing Stock	16,100
Less: Opening Stock	-
Purchases	1,12,700

5. (i) M.A. Limited

Projected Statement of Profit / Loss

(Ignoring Taxation)

	Year 1	**Year 2**
Production (Units)	6,000	9,000
Sales (Units)	5,000	8,500
	(₹)	**(₹)**
Sales revenue (A) (Sales unit × ₹ 96)	4,80,000	8,16,000
Cost of production:		
Materials cost (Units produced × ₹ 40)	2,40,000	3,60,000
Direct labour and variable expenses (Units produced × ₹ 20)	1,20,000	1,80,000
Fixed manufacturing expenses (Production Capacity: 12,000 units × ₹ 6)	72,000	72,000
Depreciation	1,20,000	1,20,000

(Production Capacity : 12,000 units × ₹ 10)		
Fixed administration expenses (Production Capacity : 12,000 units × ₹ 4)	48,000	48,000
Total Costs of Production	6,00,000	7,80,000
Add: Opening stock of finished goods (Year 1 : Nil; Year 2 : 1,000 units)	---	1,00,000
Cost of Goods available for sale (Year 1: 6,000 units; Year 2: 10,000 units)	6,00,000	8,80,000
Less: Closing stock of finished goods at average cost (year 1: 1000 units, year 2 : 1500 units) (Cost of Production × Closing stock/ units produced)	(1,00,000)	(1,32,000)
Cost of Goods Sold	5,00,000	7,48,000
Add: Selling expenses – Variable (Sales unit × ₹ 4)	20,000	34,000
Add: Selling expenses -Fixed (12,000 units × ₹ 1)	12,000	12,000
Cost of Sales : (B)	5,32,000	7,94,000
Profit (+) / Loss (-): (A - B)	(-) 52,000	(+) 22,000

Note: Value of closing stock valued at average cost of goods available for sale.

Working Notes:

1. Calculation of creditors for supply of materials:

	Year 1 (₹)	**Year 2 (₹)**
Materials consumed during the year	2,40,000	3,60,000
Add: Closing stock (2.25 month's average consumption)	45,000	67,500
	2,85,000	4,27,500
Less: Opening Stock	---	45,000
Purchases during the year	2,85,000	3,82,500

Average purchases per month (Creditors)	23,750	31,875

2. Creditors for expenses:

	Year 1 (₹)	Year 2 (₹)
Direct labour and variable expenses	1,20,000	1,80,000
Fixed manufacturing expenses	72,000	72,000
Fixed administration expenses	48,000	48,000
Selling expenses (variable + fixed)	32,000	46,000
Total (including	2,72,000	3,46,000
Average per month	22,667	28,833

(ii) Projected Statement of Working Capital requirements

	Year 1 (₹)	Year 2 (₹)
Current Assets:		
Inventories:		
- Stock of materials (2.25 month's average consumption)	45,000	67,500
- Finished goods	1,00,000	1,32,000
Debtors (1 month's average sales) (including profit)	40,000	68,000
Cash	10,000	10,000
Total Current Assets/ Gross working capital (A)	1,95,000	2,77,500
Current Liabilities:		
Creditors for supply of materials (Refer to working note 1)	23,750	31,875
Creditors for expenses (Refer to working note 2)	22,667	28,833
Total Current Liabilities: (B)	46,417	60,708
Estimated Working Capital Requirements: (A-B)	1,48,583	2,16,792

Projected Statement of Working Capital Requirement
(Cash Cost Basis)

		Year 1 (₹)	Year 2 (₹)
(A)	**Current Assets**		
	Inventories:		
	- Stock of Raw Material (6,000 units × ₹ 40 × 2.25/12); (9,000 units × ₹ 40 × 2.25 /12)	45,000	67,500
	- Finished Goods (Refer working note 3)	80,000	1,11,000
	Receivables (Debtors) (Refer working note 4)	36,000	56,250
	Minimum Cash balance	10,000	10,000
	Total Current Assets/ Gross working capital (A)	1,71,000	2,44,750
(B)	**Current Liabilities**		
	Creditors for raw material (Refer working note 1)	23,750	31,875
	Creditors for Expenses (Refer working note 2)	22,667	28,833
	Total Current Liabilities	46,417	60,708
	Net Working Capital (A – B)	1,24,583	1,84,042

Working Note:

3. Cash Cost of Production:

	Year 1 (₹)	Year 2 (₹)
Cost of Production as per projected Statement of P&L	6,00,000	7,80,000
Less: Depreciation	1,20,000	1,20,000
Cash Cost of Production	4,80,000	6,60,000
Add: Opening Stock at Average Cost:	--	80,000
Cash Cost of Goods Available for sale	4,80,000	7,40,000
Less : Closing Stock at Avg. Cost	(80,000)	(1,11,000)

$\left(\frac{₹\,4,80,000\times1,000}{6,000}\right)$; $\left(\frac{₹\,7,40,000\times1,500}{10,000}\right)$		
Cash Cost of Goods Sold	4,00,000	6,29,000

4. Receivables (Debtors)

	Year 1 (₹)	**Year 2 (₹)**
Cash Cost of Goods Sold	4,00,000	6,29,000
Add : Variable Expenses @ ₹ 4	20,000	34,000
Add : Total Fixed Selling expenses (12,000 units × ₹1)	12,000	12,000
Cash Cost of Debtors	4,32,000	6,75,000
Average Debtors	36,000	56,250

6. Calculation of Net Working Capital requirement:

	(₹)	**(₹)**
A. Current Assets:		
Inventories:		
- Raw material stock (Refer to Working note 3)	6,64,615	
- Work in progress stock (Refer to Working note 2)	5,00,000	
- Finished goods stock (Refer to Working note 4)	13,60,000	
Receivables (Debtors) (Refer to Working note 5)	25,10,769	
Cash and Bank balance	25,000	
Gross Working Capital	50,60,384	50,60,384
B. Current Liabilities:		
Creditors for raw materials	7,15,740	

(Refer to Working note 6)		
Creditors for wages (Refer to Working note 7)	91,731	
	8,07,471	8,07,471
Net Working Capital (A - B)		42,52,913

Working Notes:

1. **Annual cost of production**

	(₹)
Raw material requirements {(1,04,000 units × ₹ 80)+ ₹3,20,000}	86,40,000
Direct wages {(1,04,000 units × ₹ 30) + ₹60,000}	31,80,000
Overheads (exclusive of depreciation) {(1,04,000 × ₹ 60)+ ₹1,20,000}	63,60,000
Gross Factory Cost	1,81,80,000
Less: Closing W.I.P	(5,00,000)
Cost of Goods Produced	1,76,80,000
Less: Closing Stock of Finished Goods (₹1,76,80,000 × 8,000/1,04,000)	(13,60,000)
Total Cash Cost of Sales	1,63,20,000

2. **Work in progress stock**

	(₹)
Raw material requirements (4,000 units × ₹ 80)	3,20,000
Direct wages (50% × 4,000 units × ₹ 30)	60,000
Overheads (50% × 4,000 units × ₹ 60)	1,20,000
	5,00,000

3. **Raw material stock**

It is given that raw material in stock is average 4 weeks consumption. Since, the company is newly formed, the raw material requirement for production and work in progress will be issued and consumed during the year.

Hence, the raw material consumption for the year (52 weeks) is as follows:

	(₹)
For Finished goods (1,04,000 × ₹ 80)	83,20,000
For Work in progress (4,000 × ₹ 80)	3,20,000
	86,40,000

Raw material stock $\frac{₹\,86,40,000}{52\text{ weeks}} \times 4\text{ weeks}$ i.e. ₹ 6,64,615

4. **Finished goods stock:** 8,000 units @ ₹ 170 per unit = ₹ 13,60,000

5. **Debtors for sale:** $1,63,20,000 \times \frac{8}{52} = ₹\,25,10,769$

6. **Creditors for raw material:**

Material Consumed (₹ 83,20,000 + ₹ 3,20,000)	₹ 86,40,000
Add: Closing stock of raw material	₹ 6,64,615
Purchases of Raw Material	₹ 93,04,615

Credit allowed by suppliers = $\frac{₹\,93,04,615}{52\text{ weeks}} \times 4\text{ weeks} = ₹\,7,15,740$

7. **Creditors for wages**

Outstanding wage payment = $\frac{₹\,31,80,000}{52\text{ weeks}} \times 1.5\text{ weeks} = ₹\,91,731$

7. Preparation of Statement of Working Capital Requirement for Trux Company Ltd.

	(₹)	(₹)
A. Current Assets		
(i) Inventories:		
Material (1 month) $\left(\frac{₹6,75,000}{12 \text{months}} \times 1 \text{ month}\right)$	56,250	
Finished goods (1 month) $\left(\frac{₹21,60,000}{12 \text{months}} \times 1 \text{ month}\right)$	1,80,000	2,36,250
(ii) Receivables (Debtors)		
For Domestic Sales $\left(\frac{₹15,17,586}{12 \text{months}} \times 1 \text{month}\right)$	1,26,466	
For Export Sales $\left(\frac{₹\ 7,54,914}{12 \text{months}} \times 3 \text{months}\right)$	1,88,729	3,15,195
(iii) Prepayment of Selling expenses $\left(\frac{₹1,12,500}{12 \text{months}} \times 3 \text{months}\right)$		28,125
(iii) Cash in hand & at bank (net of overdraft)		1,75,000
Total Current Assets		7,54,570
B. Current Liabilities:		
(i) Payables (Creditors) for materials (2 months) $\left(\frac{₹6,75,000}{12 \text{months}} \times 2 \text{ month}\right)$		1,12,500

(ii)	Outstanding wages (0.5 months) $\left(\frac{₹5,40,000}{12 months} \times 0.5 month\right)$		22,500
(iii)	Outstanding manufacturing expenses $\left(\frac{₹7,65,000}{12 months} \times 1 \text{ month}\right)$		63,750
(iv)	Outstanding administrative expenses $\left(\frac{₹1,80,000}{12 months} \times 1 month\right)$		15,000
(v)	Income tax payable		42,000
	Total Current Liabilities		2,55,750
	Net Working Capital (A – B)		4,98,820
Add:	10% contingency margin		49,882
	Total Working Capital required		5,48,702

Working Notes:

1. Calculation of Cost of Goods Sold and Cost of Sales

	Domestic (₹)	Export (₹)	Total (₹)
Domestic Sales	18,00,000	8,10,000	26,10,000
Less: Gross profit @ 20% on domestic sales and 11.11% on export sales (Working note-2)	3,60,000	90,000	4,50,000
Cost of Goods Sold	14,40,000	7,20,000	21,60,000
Add: Selling expenses (Working note-3)	77,586	34,914	1,12,500
Cash Cost of Sales	15,17,586	7,54,914	22,72,500

2. Calculation of gross profit on Export Sales

Let domestic selling price is ₹ 100. Gross profit is ₹ 20, and then cost per unit is ₹ 80

Export price is 10% less than the domestic price i.e. ₹ 100–(1-0.1)= ₹ 90

Now, gross profit will be = ₹ 90 - ₹ 80 = ₹ 10

So, Gross profit ratio at export price will be = $\frac{₹\ 10}{₹\ 90} \times 100 = 11.11\%$

3. Apportionment of Selling expenses between Domestic and Exports sales:

Apportionment on the basis of sales value:

Domestic Sales $= \frac{₹\ 1,12,500}{₹\ 26,10,000} \times ₹\ 18,00,000 = ₹\ 77,586$

Exports Sales $= \frac{₹\ 1,12,500}{₹\ 26,10,000} \times ₹\ 8,10,000 = ₹\ 34,914$

4. Assumptions

(i) It is assumed that administrative expenses is related to production activities.

(ii) Value of opening and closing stocks are equal.

8. Workings:

1. **Sale receipts**

Month	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Forecast sales (S)	1,000	1,000	1,000	1,250	1,500	2,000	1,900	2,200
	₹	₹	₹	₹	₹	₹	₹	₹
S×15	15,000	15,000	15,000	18,750	22,500	30,000	28,500	33,000
Debtors pay:								
1month 40%		6,000	6,000	6,000	7,500	9,000	12,000	11,400
2month 60%		-	9,000	9,000	9,000	11,250	13,500	18,000
	-	-	15,000	15,000	16,500	20,250	25,500	29,400

2. Payment for materials – books produced two months before sale

Month	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Qty produced (Q)	1,000	1,250	1,500	2,000	1,900	2,200	2,200	2,300
	₹	₹	₹	₹	₹	₹	₹	₹
Materials (Q×5)	5,000	6,250	7,500	10,000	9,500	11,000	11,000	11,500
Paid (2 months after)	-	-	5,000	6,250	7,500	10,000	9,500	11,000

3. Variable overheads

Month	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Qty produced (Q)	1,000	1,250	1,500	2,000	1,900	2,200	2,200	2,300
	₹	₹	₹	₹	₹	₹	₹	₹
Var. overhead (Q×2)	2,000	2,500	3,000	4,000	3,800			
Var. overhead (Q×2.50)						5,500	5,500	5,750
Paid one month later		2,000	2,500	3,000	4,000	3,800	5,500	5,500

4. Wages payments

Month	Dec	Jan	Feb	Mar	Apr	May	Jun
Qty produced (Q)	1,250	1,500	2,000	1,900	2,200	2,200	2,300
	₹	₹	₹	₹	₹	₹	₹
Wages (Q × 4)	5,000	6,000	8,000				
Wages (Q × 4.50)				8,550	9,900	9,900	10,350
75% this month	3,750	4,500	6,000	6,412	7,425	7,425	7,762
25% this month		1,250	1,500	2,000	2,138	2,475	2,475
		5,750	7,500	8,412	9,563	9,900	10,237

Cash budget – six months ended June

	Jan	Feb	Mar	Apr	May	Jun
	₹	₹	₹	₹	₹	₹
Receipts:						
Sales receipts	15,000	15,000	16,500	20,250	25,500	29,400
Freehold property	-	-	-	-	25,000	-
	15,000	**15,000**	**16,500**	**20,250**	**50,500**	**29,400**
Payments:						
Materials	5,000	6,250	7,500	10,000	9,500	11,000
Var. overheads	2,500	3,000	4,000	3,800	5,500	5,500
Wages	5,750	7,500	8,412	9,563	9,900	10,237
Printing press	-	-	-	-	10,000	-
Corporation tax	-	-	10,000	-	-	-
	13,250	**16,750**	**29,912**	**23,363**	**34,900**	**26,737**
Net cash flow	1,750	(1,750)	(13,412)	(3,113)	15,600	2,663
Balance b/f	1,500	3,250	1,500	(11,912)	(15,025)	575
Cumulative cash flow	3,250	1,500	(11,912)	(15,025)	575	3,238

9. Cash Budget

	Jan ₹	Feb ₹	Mar ₹	Apr ₹	May ₹	June ₹	Total ₹
Receipts							
Cash sales	36,000	48,500	43,000	44,300	51,250	54,350	2,77,400
Collections from debtors	-	36,000	48,500	43,000	44,300	51,250	2,23,050
Bank loan	-	-	-	-	30,000	-	30,000
Total	36,000	84,500	91,500	87,300	1,25,550	1,05,600	5,30,450

Payments							
Materials	-	25,000	31,000	25,500	30,600	37,000	1,49,100
Salaries and wages	10,000	12,100	10,600	25,000	22,000	23,000	1,02,700
Production overheads	-	6,000	6,300	6,000	6,500	8,000	32,800
Office & selling overheads	-	5,500	6,700	7,500	8,900	11,000	39,600
Sales commission	2,160	2,910	2,580	2,658	3,075	3,261	16,644
Capital expenditure	-	8,000	-	25,000	-	-	33,000
Dividend	-	-	-	-	-	35,000	35,000
Total	12,160	59,510	57,180	91,658	71,075	1,17,261	4,08,844
Net cash flow	23,840	24,990	34,320	(4,358)	54,475	(11,661)	1,21,606
Balance, beginning of month	72,500	96,340	1,21,330	1,55,650	1,51,292	2,05,767	72,500
Balance, end of month	96,340	1,21,330	1,55,650	1,51,292	2,05,767	1,94,106	1,94,196

10. (a) **Cash Budget** *(in thousands)*

	Nov.	**Dec.**	**Jan.**	**Feb.**	**Mar.**
	₹	₹	₹	₹	₹
Opening Balance **(A)**			**50**	**50**	**50**
Sales	500	600	600	1,000	650
Receipts:					
Collections, current month's sales			120	200	130
Collections, previous month's sales			420	420	700
Collections, previous 2 month's sales			50	60	60
Total **(B)**			**590**	**680**	**890**
Purchases		360	600	390	450
Payments:					
Payment for purchases			360	600	390

Labour costs			150	200	160
Other expenses			100	100	100
Total **(C)**			**610**	**900**	**650**
Surplus/Deficit **(D) = (A + B – C)**			30	(170)	290
Minimum cash balance **(E)**			50	50	50
Additional borrowings **(F) = (E - D)**			20	220	(240)

	Jan.	**Feb.**	**Mar.**
	₹	**₹**	**₹**
Additional borrowings	20	220	(240)
Cumulative borrowings (Opening balance of 400)	420	640	400

The amount of financing peaks in February owing to the need to pay for purchases made the previous month and higher labour costs. In March, substantial collections are made on the prior month's billings, causing large net cash inflow sufficient to pay off the additional borrowings.

(b) Pro forma Balance Sheet, 31st March, 2023

Equity & liabilities	**Amount (₹ in '000)**	**Assets**	**Amount (₹ in '000)**
Equity shares capital	100	Net fixed assets	1,836
Retained earnings	1,529	Inventories	635
Long-term borrowings	450	Accounts receivables	620
Accounts payables	450	Cash and bank	50
Loan from banks	400		
Other liabilities	212		
	3,141		3,141

Accounts receivable = Sales in March × 0.8 + Sales in February × 0.1

= ₹ 650 × 0.8 + ₹ 1,000 × 0.1 = ₹ 620

Inventories = ₹ 545 + Total purchases from January to March – Total sales from January to March ×0.6

= ₹ 545 + (₹ 600 + ₹ 390 + ₹ 450) – (₹ 600 + ₹ 1000 + ₹ 650) × 0.6 = ₹ 635

Accounts payable = Purchases in March = ₹ 450

Retained earnings = ₹ 1,439 + Sales – Payment for purchases – Labour costs and – Other expenses, all for January to March

= ₹ 1,439 + (₹ 600 + ₹ 1000 + ₹ 650) – (₹ 360 + ₹ 600 + ₹ 390) – (₹ 150 + ₹ 200 + ₹ 160) – (₹ 100 + ₹ 100 + ₹ 100) = ₹ 1,529

11. Evaluation of Alternative Collection Programmes

	Present Policy	**Alternative I**	**Alternative II**
	₹	₹	₹
Sales Revenues	30,00,000	30,00,000	30,00,000
Average Collection Period (ACP) (days)	50	40	30
Receivables (₹) $\left(\text{Sales} \times \frac{\text{ACP}}{360}\right)$	4,16,667	3,33,333	2,50,000
Reduction in Receivables from Present Level (₹)	–	83,334	1,66,667
Savings in Interest @ 10% p.a. **(A)**	–	₹ 8,333	₹ 16,667
% of Bad Debt Loss	5%	4%	3%
Amount (₹)	1,50,000	1,20,000	90,000
Reduction in Bad Debts from Present Level **(B)**	–	30,000	60,000

Incremental Benefits from Present Level **(C) = (A) + (B)**	–	38,333	76,667
Collection Expenses (₹)	30,000	60,000	95,000
Incremental Collection Expenses from Present Level **(D)**	–	30,000	65,000
Incremental Net Benefit **(C – D)**	–	₹ 8,333	₹ 11,667

Conclusion: From the analysis it is apparent that Alternative I has a benefit of ₹ 8,333 and Alternative II has a benefit of ₹ 11,667 over present level. Alternative II has a benefit of ₹ 3,334 more than Alternative I. Hence Alternative II is more viable.

(**Note:** In absence of Cost of Sales, sales has been taken for purpose of calculating investment in receivables. 1 year = 360 days.)

12. Statement showing the Evaluation of Proposal

Particulars		**₹**
A.	**Expected Profit:**	
	Net Sales	1,00,000
	Less: Production and Selling Expenses @ 80%	(80,000)
	Profit before providing for Bad Debts	20,000
	Less: Bad Debts @10%	(10,000)
	Profit before Tax	10,000
	Less: Tax @ 50%	(5,000)
	Profit after Tax	5,000
B.	**Opportunity Cost of Investment in Receivables**	(2,500)
C.	**Net Benefits (A – B)**	2,500

Advise: The sales manager's proposal should be accepted.

Working Note: Calculation of Opportunity Cost of Funds

$$\text{Opportunity Cost} = \text{Total Cost of Credit Sales} \times \frac{\text{Collection period}}{12} \times \frac{\text{Required Rate of Return}}{100} = ₹\,80,000 \times \frac{1.5}{12} \times \frac{25}{100} = ₹\,2,500$$

Statement showing the Acceptable Degree of Risk of Non-payment

Particulars	Required Rate of Return		
	30%	40%	60%
Sales	1,00,000	1,00,000	1,00,000
Less: Production and Sales Expenses	80,000	80,000	80,000
Profit before providing for Bad Debts	20,000	20,000	20,000
Less: Bad Debts (assume X)	X	X	X
Profit before tax	20,000 – X	20,000 – X	20,000 – X
Less: Tax @ 50%	(20,000 – X) 0.5	(20,000 – X) 0.5	(20,000 – X) 0.5
Profit after Tax	10,000 –0.5X	10,000 –0.5X	10,000 –0.5X
Required Return (given)	30% of 10,000*	40% of 10,000*	60% of 10,000*
	= ₹ 3,000	= ₹ 4,000	= ₹ 6,000

*Average Debtors = Total Cost of Credit Sales × $\frac{\text{Collection period}}{12}$

= ₹ 80,000 × $\frac{1.5}{12}$ = ₹ 10,000

Computation of the value and percentage of X in each case is as follows:

Case I 10,000 – 0.5x = 3,000

0.5x = 7,000

X = 7,000/0.5 = ₹ 14,000

Bad Debts as % of sales = ₹ 14,000/₹1,00,000 × 100 = 14%

Case II 10,000 – 0.5x = 4,000

0.5x = 6,000

X = 6,000/0.5 = ₹ 12,000

Bad Debts as % of sales = ₹ 12,000/₹1,00,000 × 100 = 12%

Case III 10,000 – 0.5x = 6,000

0.5x = 4,000

X = 4,000/0.5 = ₹ 8,000

Bad Debts as % of sales = ₹ 8,000/₹1,00,000 × 100 = 8%

Thus, it is found that the Acceptable Degree of risk of non-payment is 14%, 12% and 8% if required rate of return (after tax) is 30%, 40% and 60% respectively.

13. Statement showing the Evaluation of Debtors Policies

Particulars	Proposed Policy ₹
A. Expected Profit:	
(a) Credit Sales	15,00,000
(b) Total Cost	
(i) Variable Costs	14,50,000
(ii) Recurring Costs	5,000
	14,55,000
(c) Bad Debts	15,000
(d) Expected Profit [(a) – (b) – (c)]	30,000
B. Opportunity Cost of Investments in Receivables	68,787
C. Net Benefits (A – B)	(38,787)

Recommendation: The Proposed Policy should not be adopted since the net benefits under this policy are negative

Working Note: Calculation of Opportunity Cost of Average Investments

$$\text{Opportunity Cost} = \text{Total Cost} \times \frac{\text{Collection period}}{365} \times \frac{\text{Rate of Return}}{100}$$

Particulars	15%	34%	30%	20%	Total
A. Total Cost	2,18,250	4,94,700	4,36,500	2,91,000	14,40,450
B. Collection period	30/365	60/365	90/365	100/365	
C. Required Rate of Return	24%	24%	24%	24%	
D. Opportunity Cost (A × B × C)	4,305	19,517	25,831	19,134	68,787

14.

Cost Structure for 52,000 units	
Particulars	**Amount (₹)**
Raw Material @ ₹ 400P	2,08,00,000
Direct Wages @ ₹ 150	78,00,000
Manufacturing Overheads @ ₹ 200	1,04,00,000
Selling and Distribution OH @ ₹ 100	52,00,000
Total Cost	4,42,00,000
Sales @ ₹ 1,000	5,20,00,000

Particulars	**Calculation**	**Amount (₹)**
A. Current Assets:		
Raw Material Stock	$2,08,00,000 \times \frac{4}{52}$	16,00,000
Work in Progress (WIP) Stock**	$2,08,00,000 + \frac{(78,00,000 + 1,04,00,000)}{2} \times \frac{4}{52}$	23,00,000
Finished Goods Stock	$4,42,00,000 \times \frac{4}{52}$	34,00,000
Receivables	$5,20,00,000 \times \frac{8}{52}$	80,00,000
Cash		50,000
	Total Current Assets	1,53,50,000
B. Current Liabilities:		
Creditors	$2,08,00,000 \times \frac{4}{52}$	16,00,000
C. Working Capital Estimates(A-B)		**1,37,50,000**

** Assuming that labour and overhead are incurred evenly throughout the year.

Answers to the Case Scenarios

i.	(a)	**ii.**	(a)	**iii.**	(c)	**iv.**	(a)	**v.**	(b)

1. (i)

	Units	Per unit (₹)	Amount (₹)
Raw Material consumption	3,50,000	200	7,00,00,000
labour cost	3,50,000	150	5,25,00,000
Production Overheads	3,50,000	150	5,25,00,000
Cost of Production	**3,50,000**	**500**	**17,50,00,000**
Less: Stock of FG	50,000	500	2,50,00,000
COGS	**3,00,000**	**500**	**15,00,00,000**
Selling and admin exp	3,00,000	250	7,50,00,000
Cost of Sales	**3,00,000**	**750**	**22,50,00,000**
Sales	3,00,000	1000	30,00,00,000
Profit	**3,00,000**	**250**	**7,50,00,000**

Stock of FG (sq. mtr.) = 30,00,000x2/12 = 50,000

Units sold = 3,00,000

Raw material consumed (sq. mtr.) = 3,50,000

Raw Material Purchases = Consumption + RM stock (15%)
= 7,00,00,000 + 1,05,00,000

= ₹ 8,05,00,000

(ii) Stock of Raw Material (15% of 7,00,00,000) = 1,05,00,000

Stock of finished goods = 2,50,00,000

Debtors (22,50,00,000 x 3/12) = 5,62,50,000

Cash = 25,00,000

Total Current Assets = 9,42,50,000

(iii) Working Capital Statement

	Amount (₹)
Stock of Raw Material (15% of 7,00,00,000)	1,05,00,000
Stock of finished goods	2,50,00,000

Debtors (22,50,00,000 x 3/12)	5,62,50,000
Cash	25,00,000
Total Current Assets	**9,42,50,000**
Creditors (8,05,00,000 x 1/12)	67,08,333
O/s Exp (18,00,00,000 x 1/12)	1,50,00,000
Total Current Liabilities	**2,17,08,333**
Net Working Capital	**7,25,41,667**

(iv) Cost reducing debtors credit period

Debtors credit period = 2 months

Debtors balance = 21,37,50,000(2,85,000 units) x 2/12 = ₹3,56,25,000

Debtors credit period = 3 months

Debtors balance = 22,50,00,000 x 3/12
= ₹ 5,62,50,000

Amount released from debtors = ₹ 2,06,25,000

reduction in profit (15,000 units x ₹ 250) = ₹ 37,50,000

% p.a. cost (37,50,000/2,06,25,000) = **18.18%**

Costs of factoring

Commission (2% of 30 crores) = 60,00,000

Interest = ₹ 58,50,000

(30cr x 65% x 12% x 3/12)

savings = ₹ 36,00,000

Net cost of factoring $\frac{82,50,000}{65\% \text{ of } 30\text{cr. i.e. } 19,50,00,000} \times \frac{12}{3}$ = ₹ 82,50,000

% p.a. cost = **16.92%**

(v) 5,44,06,250 and 18.33%

Maximum Permissible Bank Finance = 75% of 7,25,41,667

= ₹ 5,44,06,250

Annualised cost of bank loan = 16.5/90% = 18.33%