Management of Receivables (Debtors)

Q.1 Tony Limited, manufacturer of Colour TV sets is considering the liberalization of existing credit terms to three of their large customers A, B and C. The credit period and likely quantity of TV sets that will be sold to the customers in addition to other sales are as follows:

Quantity sold (No. of TV Sets)

Credit Period (Days)	A	B	C
0	1,000	1,000	-
30	1,000	1,500	-
60	1,000	2,000	1,000
90	1,000	2,500	1,500

The selling price per TV set is ₹ 9,000. The expected contribution is 20% of the selling price. The cost of carrying receivable averages 20% per annum.

You are required:

(a) COMPUTE the credit period to be allowed to each customer.

(Assume 360 days in a year for calculation purposes).

(b) DEMONSTRATE the other problems the company might face in allowing the credit period as determined in (a) above?

Ans

(a) In case of customer A, there is no increase in sales even if the credit is given. Hence comparative statement for B & C is given below:

Particulars	Customer B				Customer C			
1. Credit period (days)	0	30	60	90	0	30	60	90
2. Sales Units	1,000	1,500	2,000	2,500	-	-	1,000	1,500
	₹ in lakhs				₹in lakhs			
3. Sales Value	90	135	180	225	-	-	90	135
4. Contribution at 20% (A)	18	27	36	45	-	-	18	27
5. Receivables: $\frac{\text{Credit Period} \times \text{Sales}}{360}$	-	11.25	30	56.25	-	-	15	33.75
6. Debtors at cost i.e. 80% of 11.25	-	9	24	45	-	-	12	27
7. Cost of carrying debtors at 20% (B)	-	1.8	4.8	9	-	-	2.4	5.4
8. Excess of contributions over cost of carrying debtors (A – B)	18	25.2	31.2	36	-	-	15.6	21.6

The excess of contribution over cost of carrying Debtors is highest in case of credit period of 90 days in respect of both the customers B and C. Hence, credit period of 90 days should be allowed to B and C.

(b) Problem:

(i) Customer A is taking 1000 TV sets whether credit is given or not. Customer C is taking 1000 TV sets at credit for 60 days. Hence A also may demand credit for 60 days compulsorily.

(ii) B will take 2500 TV sets at credit for 90 days whereas C would lift 1500 sets only. In such case B will demand further relaxation in credit period i.e. B may ask for 120 days credit.

Management of Working Capital

Q.2 A proforma cost sheet of a company provides the following particulars:

	Amount per unit (₹)
Raw materials cost	100.00
Direct labour cost	37.50
Overheads cost	75.00
Total cost	212.50
Profit	37.50
Selling Price	250.00

The Company keeps raw material in stock, on an average for one month; work-in-progress, on an average for one week; and finished goods in stock, on an average for two weeks.

The credit allowed by suppliers is three weeks and company allows four weeks credit to its debtors. The lag in payment of wages is one week and lag in payment of overhead expenses is two weeks.

The Company sells one-fifth of the output against cash and maintains cash-in-hand and at bank put together at ₹37,500.

Required:

PREPARE a statement showing estimate of Working Capital needed to finance an activity level of 1,30,000 units of production. Assume that production is carried on evenly throughout the year, and wages and overheads accrue similarly. Work-in-progress stock is 80% complete in all respects.

Ans:

Statement showing Estimate of Working Capital Needs

	(Amount in ₹)	(Amount in ₹)
A. Current Assets		
(i) Inventories:		
Raw material (1 month or 4 weeks) $\left(\frac{1,30,000 \text{ units} \times ₹100}{52 \text{ weeks}} \times 4 \text{ weeks}\right)$	10,00,000	

WIP Inventory (1 week) $\left(\frac{1,30,000 \text{ units} \times ₹212.50}{52 \text{ weeks}}\right) \times 1 \text{ week} \times 0.8$	4,25,000	
Finished goods inventory (2 weeks) $\left(\frac{1,30,000 \text{ units} \times ₹212.50}{52 \text{ weeks}}\right) \times 2 \text{ weeks}$	10,62,500	24,87,500

(ii)	Receivables (Debtors) (4 weeks) $\left(\frac{1,30,000 \text{ units} \times ₹212.50}{52 \text{ weeks}}\right) \times 4 \text{ weeks} \quad \frac{4}{5_{th}}$		17,00,000
(iii)	Cash and bank balance		37,500
	Total Current Assets		42,25,000
B.	**Current Liabilities:**		
(i)	Payables (Creditors) for materials (3 weeks) $\left(\frac{1,30,000 \text{ units} \times ₹100}{52 \text{ weeks}}\right) \times 3 \text{ weeks}$		7,50,000
(ii)	Outstanding wages (1 week) $\left(\frac{1,30,000 \text{ units} \times ₹37.50}{52 \text{ weeks}}\right) \times 1 \text{ week}$		93,750
(iii)	Outstanding overheads (2 weeks) $\left(\frac{1,30,000 \text{ units} \times ₹75}{52 \text{ weeks}}\right) \times 2 \text{ weeks}$		3,75,000
	Total Current Liabilities		12,18,750
	Net Working Capital Needs (A – B)		30,06,250

Management of Working Capital

Q.3 Following are cost information of KG Ltd., which has commenced a new project for an annual production of 24,000 units which is the full capacity:

	Costs per unit (₹)
Materials	80.00
Direct labour and variable expenses	40.00
Fixed manufacturing expenses	12.00
Depreciation	20.00
Fixed administration expenses	8.00
	160.00

The selling price per unit is expected to be ₹192 and the selling expenses ₹10 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	12,000	10,000
2	18,000	17,000

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

(a)	Stock of materials	2 months' average consumption
(b)	Work-in-process	Nil
(c)	Debtors	2 month's average sales.
(d)	Cash balance	₹ 1,00,000
(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

Ans

(i) **Projected Statement of Profit / Loss**
(Ignoring Taxation)

	Year 1	Year 2
Production (Units)	12,000	18,000
Sales (Units)	10,000	17,000

	(₹)	(₹)
Sales revenue (A) (Sales unit × ₹192)	19,20,000	32,64,000
Cost of production:		
Materials cost (Units produced × ₹80)	9,60,000	14,40,000
Direct labour and variable expenses (Units produced × ₹40)	4,80,000	7,20,000
Fixed manufacturing expenses (Production Capacity: 24,000 units × ₹12)	2,88,000	2,88,000
Depreciation (Production Capacity : 24,000 units × ₹20)	4,80,000	4,80,000
Fixed administration expenses (Production Capacity : 24,000 units × ₹8)	1,92,000	1,92,000
Total Costs of Production	24,00,000	31,20,000
Add: Opening stock of finished goods (Year 1 : Nil; Year 2 : 2,000 units)	---	4,00,000

Cost of Goods available for sale (Year 1: 12,000 units; Year 2: 20,000 units)	24,00,000	35,20,000
Less: Closing stock of finished goods at average cost (year 1: 2000 units, year 2 : 3000 units) (Cost of Production × Closing stock/ units produced)	(4,00,000)	(5,28,000)
Cost of Goods Sold	20,00,000	29,92,000
Add: Selling expenses – Variable (Sales unit × ₹8)	80,000	1,36,000
Add: Selling expenses -Fixed (24,000 units × ₹2)	48,000	48,000
Cost of Sales : (B)	21,28,000	31,76,000
Profit (+) / Loss (-): (A - B)	(-) 2,08,000	(+) 88,000

Working Notes:

1. Calculation of creditors for supply of materials:

	Year 1 (₹)	Year 2 (₹)
Materials consumed during the year	9,60,000	14,40,000
Add: Closing stock (2 month's average consumption)	1,60,000	2,40,000
	11,20,000	16,80,000
Less: Opening Stock	---	1,60,000
Purchases during the year	11,20,000	15,20,000
Average purchases per month (Creditors)	93,333	1,26,667

2. Creditors for expenses:

	Year 1 (₹)	Year 2 (₹)
Direct labour and variable expenses	4,80,000	7,20,000
Fixed manufacturing expenses	2,88,000	2,88,000
Fixed administration expenses	1,92,000	1,92,000
Selling expenses (variable + fixed)	1,28,000	1,84,000
Total	10,88,000	13,84,000
Average per month	90,667	1,15,333

(ii) Projected Statement of Working Capital requirements

	Year 1 (₹)	Year 2 (₹)
Current Assets:		
Inventories:		
-Stock of materials (2 month's average consumption)	1,60,000	2,40,000
-Finished goods	4,00,000	5,28,000
Debtors (2 month's average sales) (including profit)	3,20,000	5,44,000
Cash	1,00,000	1,00,000
Total Current Assets/ Gross working capital (A)	9,80,000	14,12,000

Current Liabilities:

Creditors for supply of materials (Refer to working note 1)	93,333	1,26,667
Creditors for expenses (Refer to working note 2)	90,667	1,15,333
Total Current Liabilities: (B)	1,84,000	2,42,000
Estimated Working Capital Requirements: (A-B)	7,96,000	11,70,000

Management of Working Capital

Q.4 A regular customer of your company has approached to you for extension of credit facility for purchasing of goods. On analysis of past performance and on the basis of information supplied, the following pattern of payment schedule emerges:

Pattern of Payment Schedule	
At the end of 30 days	20% of the bill
At the end of 60 days	30% of the bill.
At the end of 90 days	30% of the bill.
At the end of 100 days	18% of the bill.
Non-recovery	2% of the bill.

The customer wants to enter into a firm commitment for purchase of goods of ₹30 lakhs in 2019, 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 ₹300 on which a profit of ₹10 per unit is expected to be made. It is anticipated that taking up of this contract would mean an extra recurring expenditure of ₹10,000 per annum. If the opportunity cost is 18% per annum, would you as the finance manager of the company RECOMMEND the grant of credit to the customer? Assume 1 year = 360 days.

Ans

Statement showing the Evaluation of credit Policies

Particulars	Proposed Policy ₹
A. Expected Profit:	
(a) Credit Sales	30,00,000
(b) Total Cost	
(i) Variable Costs	29,00,000
(ii) Recurring Costs	10,000
	29,10,000
(c) Bad Debts	60,000
(d) Expected Profit [(a) – (b) – (c)]	30,000
B. Opportunity Cost of Investments in Receivables	1,00,395
C. Net Benefits (A – B)	(70,395)

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

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

Particulars	20%	30%	30%	18%	Total
A. Total Cost	5,82,000	8,73,000	8,73,000	5,23,800	28,51,800
B. Collection period	30/360	60/360	90/360	100/360	
C. Required Rate of Return	18%	18%	18%	18%	
D. Opportunity Cost (A × B × C)	8,730	26,190	39,285	26,190	1,00,395

Q.5 TM Limited, a manufacturer of colour TV sets is considering the liberalization of existing credit terms to three of their large customers A, B and C. The credit period and likely quantity of TV sets that will be sold to the customers in addition to other sales are as follows:

Quantity sold (No. of TV Sets)

Credit Period (Days)	A	B	C
0	10,000	10,000	-
30	10,000	15,000	-
60	10,000	20,000	10,000
90	10,000	25,000	15,000

The selling price per TV set is ₹15,000. The expected contribution is 50% of the selling price. The cost of carrying receivable averages 20% per annum.

You are required to COMPUTE the credit period to be allowed to each customer.

(Assume 360 days in a year for calculation purposes).

Ans In case of customer A, there is no increase in sales even if the credit is given. Hence comparative statement for B & C is given below:

Particulars	Customer B				Customer C			
1. Credit period (days)	0	30	60	90	0	30	60	90
2. Sales Units	10,000	15,000	20,000	25,000	-	-	10,000	15,000
	₹ in lakh				₹in lakh			
3. Sales Value	1,500	2,250	3,000	3,750	-	-	1,500	2,250
4. Contribution at 50% (A)	750	1,125	1,500	1,875	-	-	750	1,125
5. Receivables:- $\frac{\text{Credit Period} \times \text{Sales}}{360}$	-	187.5	500	937.5	-	-	250	562.5
6. Debtors at cost	-	93.75	250	468.75	-	-	125	281.25
7. Cost of carrying debtors at 20% (B)	-	18.75	50	93.75	-	-	25	56.25

8. Excess of contributions over cost of carrying debtors (A – B)	750	1,106.25	1,406.25	1,781.25	-	-	725	1,068.75

The excess of contribution over cost of carrying Debtors is highest in case of credit period of 90 days in respect of both the customers B and C. Hence, credit period of 90 days should be allowed to B and C.

Management of working Capital

Q.6 Day Ltd., a newly formed company has applied to the Private Bank for the first time for financing it's Working Capital Requirements. The following information is available about the projections for the current year:

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

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

Ans **Calculation of Net Working Capital requirement:**

	(₹)	(₹)
A. Current Assets:		
Inventories:		
Stock of Raw material (Refer to Working note (iii)	1,44,000	
Stock of Work in progress (Refer to Working note (ii)	7,50,000	
Stock of Finished goods (Refer to Working note (iv)	20,40,000	
Debtors for Sales(Refer to Working note (v)	1,02,000	
Cash	2,00,000	
Gross Working Capital	32,36,000	32,36,000
B. Current Liabilities:		
Creditors for Purchases (Refer to Working note (vi)	1,56,000	
Creditors for wages (Refer to Working note (vii)	23,250	
	1,79,250	1,79,250
Net Working Capital (A - B)		**30,56,750**

Working Notes:

(i) Annual cost of production

	(₹)
Raw material requirements {(31,200 × ₹ 40) + (12,000 x ₹ 40)}	17,28,000
Direct wages {(31,200 ×₹ 15) +(12,000 X ₹ 15 x 0.5)}	5,58,000
Overheads (exclusive of depreciation) {(31,200 × ₹ 30) + (12,000 x ₹ 30 x 0.5)}	11,16,000
Gross Factory Cost	34,02,000
Less: Closing W.I.P [12,000 (₹ 40 + ₹ 7.5 + ₹15)]	(7,50,000)
Cost of Goods Produced	26,52,000
Less: Closing Stock of Finished Goods (₹ 26,52,000 × 24,000/31,200)	(20,40,000)
Total Cash Cost of Sales*	6,12,000

[*Note: Alternatively, Total Cash Cost of Sales = (31,200 units – 24,000 units) x (₹ 40 + ₹ 15 + ₹ 30) = ₹ 6,12,000]

(ii) Work in progress stock

	(₹)
Raw material requirements (12,000 units × ₹40)	4,80,000
Direct wages (50% × 12,000 units × ₹ 15)	90,000
Overheads (50% × 12,000 units × ₹ 30)	1,80,000
	7,50,000

(iii) Raw material stock

It is given that raw material in stock is average 30 days 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 (360 days) is as follows:

	(₹)
For Finished goods (31,200 × ₹ 40)	12,48,000
For Work in progress (12,000 × ₹ 40)	4,80,000
	17,28,000

$$\text{Raw material stock} = \frac{₹17,28,000}{360\,\text{days}} \times 30\,\text{days} = ₹1,44,000$$

(iv) Finished goods stock:

24,000 units @ ₹ (40+15+30) per unit = ₹20,40,000

(v) Debtors for sale: $₹6,12,000 \times \frac{60\,\text{days}}{360\,\text{days}}$ = ₹1,02,000

(vi) Creditors for raw material Purchases [Working Note (iii)]:

Annual Material Consumed (₹12,48,000 + ₹4,80,000)	₹17,28,000
Add: Closing stock of raw material [(₹17,28,000 x 30 days) / 360 days]	₹ 1,44,000
	₹18,72,000

Credit allowed by suppliers = $\frac{₹18,72,000}{360\,days} \times 30\,days = ₹\ 1,56,000$

(vii) Creditors for wages:

Outstanding wage payment = [(31,200 units x ₹ 15) + (12,000 units x ₹ 15 x .50)] x 15 days / 360 days

$= \frac{₹\,5,58,000}{360\,days} \times 15\,days = ₹\ 23,250$

Management of Receivables (Debtors)

Q.7 A company wants to follow a more prudent policy to improve its sales for the region which is ₹ 9 lakhs per annum at present, having an average collection period of 45 days. After certain researches, the management consultant of the company reveals the following information:

Credit Policy	Increase in collection period	Increase in sales	Present default anticipated
W	15 days	₹ 60,000	1.5%
X	30 days	₹ 90,000	2%
Y	45 days	₹ 1,50,000	3%
Z	70 days	₹ 2,10,000	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 360 days year)

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

Ans

A. Statement showing the Evaluation of Debtors Policies (Total Approach)

(Amount in ₹)

Particulars		Present Policy 45 days	Proposed Policy W 60 days	Proposed Policy X 75 days	Proposed Policy Y 90 days	Proposed Policy Z 115 days
I.	**Expected Profit:**					
	(a) Credit Sales	9,00,000	9,60,000	9,90,000	10,50,000	11,10,000
	(b) Total Cost other than Bad Debts					
	(i) Variable Costs [Sales × 2/ 3]	6,00,000	6,40,000	6,60,000	7,00,000	7,40,000
	(ii) Fixed Costs	75,000	75,000	75,000	75,000	75,000
		6,75,000	7,15,000	7,35,000	7,75,000	8,15,000
	(c) Bad Debts	9,000	14,400	19,800	31,500	44,400
	(d) Expected Profit [(a) – (b) – (c)]	2,16,000	2,30,600	2,35,200	2,43,500	2,50,600

II.	**Opportunity Cost of Investments in Receivables**	16,875	23,833	30,625	38,750	52,069
III.	**Net Benefits (I – II)**	1,99,125	2,06,767	2,04,575	2,04,750	1,98,531

Recommendation: The Proposed Policy W (i.e. increase in collection period by 15 days or total 60 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] × (₹ 9,00,000/3)

= ₹ 0.25 × 3,00,000 = ₹ 75,000

(ii) Calculation of Opportunity Cost of Average Investments

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

Present Policy = 6,75,000 × $\frac{45}{360} \times \frac{20}{100}$ = 16,875

Policy W = 7,15,000 × $\frac{60}{360} \times \frac{20}{100}$ = 23,833

Policy X = 7,35,000 × $\frac{75}{360} \times \frac{20}{100}$ = 30,625

Policy Y = 7,75,000 × $\frac{90}{360} \times \frac{20}{100}$ = 38,750

Policy Z = 8,15,000 × $\frac{115}{360} \times \frac{20}{100}$ = 52,069

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

Particulars		**Present Policy 45 days**	**Proposed Policy W 60 days**	**Proposed Policy X 75 days**	**Proposed Policy Y 90 days**	**Proposed Policy Z 115 days**
I.	**Incremental Expected Profit:**					
	(a) Incremental Credit Sales	0	60,000	90,000	1,50,000	2,10,000
	(b) Incremental Costs					
	(i) Variable Costs	6,00,000	40,000	60,000	1,00,000	1,40,000
	(ii) Fixed Costs	75,000	-	-	-	-
	(c) Incremental Bad Debt Losses	9,000	5,400	10,800	22,500	35,400
	(d) Incremental Expected Profit (a – b –c)]		14,600	19,200	27,500	34,600
II.	**Required Return on Incremental Investments:**					
	(a) Cost of Credit Sales	6,75,000	7,15,000	7,35,000	7,75,000	8,15,000
	(b) Collection period	45	60	75	90	115
	(c) Investment in Receivable (a × b/360)	84,375	1,19,167	1,53,125	1,93,750	2,60,347

	(d) Incremental Investment in Receivables	-	34,792	68,750	1,09,375	1,75,972
	(e) Required Rate of Return (in %)		20	20	20	20
	(f) Required Return on Incremental Investments (d × e)	-	**6,958**	**13,750**	**21,875**	**35,194**
III.	**Net Benefits (I – II)**	₹ 34,600 / ₹ 1,75,972	7,642	5,450	5,625	(594)

Recommendation: The Proposed Policy W 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.**

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

For Policy W = $\frac{₹ 14,600}{₹ 34,792}$ x 100 = 41.96%

For Policy X = $\frac{₹ 19,200}{₹ 68,750}$ x 100 = 27.93%

For Policy Y = $\frac{₹ 27,500}{₹ 1,09,375}$ x 100 = 25.14%

For Policy Z = x 100 = 19.66%

Recommendation: The Proposed Policy W should be adopted since the Expected Rate of Return (41.96%) is more than the Required Rate of Return (20%) and is highest among the given policies compared.

Management of working Capital

Q.8 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.

Ans

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:
Current Ratio = 2.5 and Liquid Ratio = 1.5
Inventories (Stock) = 2.5 – 1.5 = 1
Current Assets = Amount of Inventories (Stock) × 2.5/1
= ₹ 9,75,000 × 2.5/1 = ₹ 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 Share Capital = Net worth
Net worth = 1 + 1.5 = 2.5
Reserves and Surplus = ₹ 30,00,000 × 1/1.5
= ₹ 20,00,000

(x) Share Capital = Net worth – Reserves and Surplus
= ₹ 30,00,000 – ₹ 20,00,000

= ₹ 10,00,000

(xi) Current Liabilities = Current Assets/ Current Ratio

= ₹ 24,37,500/2.5 = ₹ 9,75,000

(xii) 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 at 31-03-2020 (₹)	Figures as at 31-03-2019 (₹)
I. EQUITY AND LIABILITIES		
Shareholders' funds		
(a) Share capital	10,00,000	-
(b) Reserves and surplus	20,00,000	-
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

Particulars	(₹)	(₹)
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

Q.9 MT Ltd. has been operating its manufacturing facilities till 31.3.2021 on a single shift working with the following cost structure:

	Per unit (₹)
Cost of Materials	24
Wages (out of which 60% variable)	20
Overheads (out of which 20% variable)	20
	64
Profit	8
Selling Price	72

As at 31.3.2021 with the sales of ₹ 17,28,000, the company held:

	(₹)
Stock of raw materials (at cost)	1,44,000
Work-in-progress (valued at prime cost)	88,000
Finished goods (valued at total cost)	2,88,000
Sundry debtors	4,32,000

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

You are required to CALCULATE the additional working capital requirements, if the policy to increase output is implemented, to assess the impact of double shift for long term as a matter of production policy.

Ans **Workings:**

(1) Statement of cost at single shift and double shift working

	24,000 units		48,000 Units	
	Per unit (₹)	Total (₹)	Per unit (₹)	Total (₹)
Raw materials	24	5,76,000	21.6	10,36,000
Wages:				
Variable	12	2,88,000	12	5,76,000
Fixed	8	1,92,000	4	1,92,000
Overheads:				
Variable	4	96,000	4	1,92,000
Fixed	16	3,84,000	8	3,84,000
Total cost	64	15,36,000	49.6	23,80,800
Profit	8	1,92,000	22.4	10,75,200
Sales	72	17,28,000	72	34,56,000

(2) Sales in units 2020-21 $= \frac{\text{Sales}}{\text{Unit selling price}} = \frac{₹\ 17,28,000}{₹\ 72} = 24,000$ units

(3) Stock of Raw Materials in units on 31.3.2021

$= \frac{\text{Value of stock}}{\text{Cost per unit}} = \frac{₹\ 1,44,000}{₹\ 24} = 6,000$ units

(4) Stock of work-in-progress in units on 31.3.2021

$$= \frac{\text{Value of work-in-progress}}{\text{Prime Cost per unit}} = \frac{₹\ 88,000}{₹\ (24+20)} \quad 2,000 \text{ units}$$

(5) Stock of finished goods in units 2020-21

$$= \frac{\text{Value of stock}}{\text{Total Cost per unit}} = \frac{₹\ 2,88,000}{₹\ 64} = 4,500 \text{ units.}$$

Comparative Statement of Working Capital Requirement

	Single Shift (24,000 units)			Double Shift (48,000 units)		
	Units	Rate (₹)	Amount (₹)	Units	Rate (₹)	Amount (₹)
Current Assets						
Inventories:						
Raw Materials	6,000	24	1,44,000	12,000	21.6	2,59,200
Work-in-Progress	2,000	44	88,000	2,000	37.6	75,200
Finished Goods	4,500	64	2,88,000	9,000	49.6	4,46,400
Sundry Debtors	6,000	64	3,84,000	12,000	49.6	5,95,200
Total Current Assets (A)			9,04,000			13,76,000
Current Liabilities						
Creditors for Materials	4,000	24	96,000	8,000	21.6	1,72,800
Creditors for Wages	2,000	20	40,000	4,000	16	64,000
Creditors for Overheads	2,000	20	40,000	4,000	12	48,000
Total Current Liabilities (B)			1,76,000			2,84,800
Working Capital (A) – (B)			**7,28,000**			**10,91,200**

Analysis: Additional Working Capital requirement = ₹ 10,91,200 – ₹ 7,28,000 = ₹3,63,200, if the policy to increase output is implemented.

Q.10 While applying for financing of working capital requirements to a commercial bank, TN Industries Ltd. projected the following information for the next year:

Cost Element	Per unit (₹)	Per unit (₹)
Raw materials		
X	30	
Y	7	
Z	6	43
Direct Labour		25
Manufacturing and administration overheads (excluding depreciation)		20
Depreciation		10
Selling overheads		15
		113

Additional Information:

(a) Raw Materials are purchased from different suppliers leading to different credit period allowed as follows:

X – 2 months; Y– 1 months; Z – ½ month

(b) Production cycle is of ½ month. Production process requires full unit of X and Y in the beginning of the production. Z is required only to the extent of half unit in the beginning and the remaining half unit is needed at a uniform rate during the production process.

(c) X is required to be stored for 2 months and other materials for 1 month.

(d) Finished goods are held for 1 month.

(e) 25% of the total sales is on cash basis and remaining on credit basis. The credit allowed by debtors is 2 months.

(f) Average time lag in payment of all overheads is 1 months and ½ months for direct labour.

(g) Minimum cash balance of ₹ 8,00,000 is to be maintained.

CALCULATE the estimated working capital required by the company on cash cost basis if the budgeted level of activity is 1,50,000 units for the next year. The company also intends to increase the estimated working capital requirement by 10% to meet the contingencies. (You may assume that production is carried on evenly throughout the year and direct labour and other overheads accrue similarly.)

Ans **Statement showing Working Capital Requirements of TN Industries Ltd. (on cash cost basis)**

	Amount in (₹)	Amount in (₹)
A. Current Assets		
(i) Inventories:		
Raw material		
X $\left(\frac{1,50,000 \text{ units} \times ₹ 30}{12 \text{ months}} \times 2 \text{ months}\right.$	7,50,000	
Y $\left(\frac{1,50,000 \text{ units} \times ₹ 7}{12 \text{ months}} \times 1 \text{ month}\right.$	87,500	
Z $\left(\frac{1,50,000 \text{ units} \times ₹ 6}{12 \text{ months}} \times 1 \text{ month}\right.$	75,000	
WIP $\left(\frac{1,50,000 \text{ units} \times ₹ 64}{12 \text{ months}} \times 0.5 \text{ month}\right.$	4,00,000	
Finished goods $\left(\frac{1,50,000 \text{ units} \times ₹ 88}{12 \text{ months}} \times 1 \text{ month}\right.$	11,00,000	24,12,500
(ii) Receivables (Debtors) $\left(\frac{1,50,000 \text{ units} \times ₹ 103}{12 \text{ months}} \times 2 \text{ months} \quad 0.75\right.$		19,31,250
(iii) Cash and bank balance		8,00,000
Total Current Assets		**51,43,750**

B. Current Liabilities:		
(i) Payables (Creditors) for Raw materials		
X $\left(\frac{1,50,000 \text{ units} \times ₹ 30}{12 \text{ months}} \times 2 \text{ months}\right.$	7,50,000	
Y $\left(\frac{1,50,000 \text{ units} \times ₹ 7}{12 \text{ months}} \times 1 \text{ month}\right.$	87,500	
Z $\left(\frac{1,50,000 \text{ units} \times ₹ 6}{12 \text{ months}} \times 0.5 \text{ month}\right.$	37,500	8,75,000
(ii) Outstanding Direct Labour $\left(\frac{1,50,000 \text{ units} \times ₹ 25}{12 \text{ months}} \times 0.5 \text{ month}\right.$		1,56,250
(iii) Outstanding Manufacturing and administration overheads $\left(\frac{1,50,000 \text{ units} \times ₹ 20}{12 \text{ months}} \times 1 \text{ month}\right.$		2,50,000
(iv) Outstanding Selling overheads $\left(\frac{1,50,000 \text{ units} \times ₹ 15}{12 \text{ months}} \times 1 \text{ month}\right.$		1,87,500
Total Current Liabilities		**14,68,750**
Net Working Capital Needs (A – B)		**36,75,000**
Add: Provision for contingencies @ 10%		3,67,500
Working capital requirement		**40,42,500**

Workings:

1.

(i) Computation of Cash Cost of Production	**Per unit (₹)**
Raw Material consumed	43
Direct Labour	25
Manufacturing and administration overheads	20
Cash cost of production	88
(ii) Computation of Cash Cost of Sales	**Per unit (₹)**
Cash cost of production as in (i) above	88
Selling overheads	15
Cash cost of sales	103

2. Calculation of cost of WIP

Particulars	Per unit (₹)
Raw material (added at the beginning):	
X	30
Y	7
Z (₹ 6 x 50%)	3
Cost during the year:	
Z {(₹ 6 x 50%) x 50%}	1.5
Direct Labour (₹ 25 x 50%)	12.5
Manufacturing and administration overheads (₹ 20 x 50%)	10
	64

Management of Receivables (Debtors)

Q.11 The Alliance Ltd., a Petrochemical sector company had just invested huge amount in its new expansion project. Due to huge capital investment, the company is in need of an additional ₹ 1,50,000 in working capital immediately. The Finance Manger has determined the following three feasible sources of working capital funds:

(i) Bank loan: The Company's bank will lend ₹ 2,00,000 at 15%. A 10% compensating balance will be required, which otherwise would not be maintained by the company.

(ii) Trade credit: The company has been offered credit terms from its major supplier of 3/30, net 90 for purchasing raw materials worth ₹ 1,00,000 per month.

(iii) Factoring: A factoring firm will buy the company's receivables of ₹ 2,00,000 per month, which have a collection period of 60 days. The factor will advance up to 75% of the face value of the receivables at 12% on an annual basis. The factor will also charge commission of 2% on all receivables purchased. It has been estimated that the factor's services will save the company a credit department expense and bad debt expense of ₹ 1,250 and ₹ 1,750 per month respectively.

On the basis of annual percentage cost, ADVISE which alternative should the company select? Assume 360 days year.

Ans

(i) Bank loan: Since the compensating balance would not otherwise be maintained, the real annual cost of taking bank loan would be:

$$= \frac{15}{90} \times 100 = 16.67\% \text{ p.a.}$$

(ii) Trade credit: Amount upto ₹ 1,50,000 can be raised within 2 months or 60 days. The real annual cost of trade credit would be:

$$= \frac{3}{97} \quad \frac{360}{60} \quad 100 \quad 18.56\% \text{ p.a.}$$

(iii) Factoring:

Commission charges per year	= 2% × (₹ 2,00,000 × 12)	= ₹ 48,000
Total Savings per year	= (₹ 1,250 + ₹ 1,750) × 12	= ₹ 36,000
Net factoring cost per year	= ₹ 48,000 - ₹ 36,000	= ₹ 12,000

Annual Cost of Borrowing ₹ 1,50,000 receivables through factoring would be:

$$= \frac{12\% \times 1{,}50{,}000 \quad ₹\ 12{,}000}{₹\ 1{,}50{,}000} \times 100$$

$$= \frac{₹\ 18{,}000 + ₹\ 12{,}000}{₹\ 1{,}50{,}000} \times 100$$

= 20% p.a.

Advise: The company should select alternative of Bank Loan as it has the lowest annual cost i.e. 16.67% p.a.

Q.12 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.

Ans **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		1,75,000
Total Current Assets		7,54,570
B. Current Liabilities:		
(i) Payables (Creditors) for materials (2 months) $\left(\frac{₹6,75,000}{12\text{months}} \times 2\text{months}\right)$		1,12,500
(ii) Outstanding wages (0.5 months) $\left(\frac{₹5,40,000}{12\text{months}} \times 0.5\text{month}\right)$		22,500
(iii) Outstanding manufacturing expenses $\left(\frac{₹7,65,000}{12\text{months}} \times 1\text{month}\right)$		63,750
(iv) Outstanding administrative expenses $\left(\frac{₹1,80,000}{12\text{months}} \times 1\text{month}\right)$		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.

Management of Receivables

Q.13 River limited currently uses the credit terms of 1.5/15 net 45 days and average collection period was 30 days. The company presently having sales of ₹ 50,00,000 and 30% customers availing the discount. The chances of default are currently 5%. Variable cost constitutes 65% and total cost constitute 85% of sales. The company is planning liberalization of credit terms to 2/20 net 50 days. It is expected that sales are likely to increase by ₹ 5,00,000, the default chances are 10% and average collection period will decline to 25 days. There won't be any change in the fixed cost and 50% customers are expected to avail the discount. Tax rate is 35%.

EVALUATE this policy in comparison with the current policy and recommend whether the new policy should be implemented. Assume cost of capital to be 10% (post tax) and 360 days in a year.

Ans

Evaluation of Credit Policies

	Particulars	1.5/15 net 45	2/20 net 50
A	Sales	₹50,00,000	₹55,00,000
B	Variable Cost (65%)	₹32,50,000	₹35,75,000
C	Fixed Cost (20% in 1st Case)	₹10,00,000	₹10,00,000
D	Bad Debts (5% and 10%)	₹2,50,000	₹5,50,000
E	Discounts		
	(₹5000000x30%x1.5%)	₹22,500	-
	(₹5500000x50%x2%)	-	₹55,000
F	PBT (A-B-C-D-E)	₹4,77,500	₹3,20,000

G	Tax @ 35%	₹1,67,125	₹1,12,000
H	PAT	₹3,10,375	₹2,08,000
I	Opportunity Cost		
	(₹3250000 + ₹1000000) x 30/360x10%	₹35,417	-
	(₹3575000 + ₹1000000) x 25/360 x 10%	-	₹31,771
J	**Net Benefit**	**₹2,74,958**	**₹1,76,229**

The new policy leads to lower net benefit for the company. Hence it should not be implemented.

Management of Working Capital

Q.14 Kalyan limited has provided you the following information for the year 2021-22:

By working at 60% of its capacity the company was able to generate sales of ₹ 72,00,000. Direct labour cost per unit amounted to ₹ 20 per unit. Direct material cost per unit was 40% of the selling price per unit. Selling price was 3 times the direct labour cost per unit. Profit margin was 25% on the total cost.

For the year 2022-23, the company makes the following estimates:

Production and sales will increase to 90% of its capacity. Raw material per unit price will remain unchanged. Direct expense per unit will increase by 50%. Direct labour per unit will increase by 10%. Despite the fluctuations in the cost structure, the company wants to maintain the same profit margin on sales.

Raw materials will be in stock for one month whereas finished goods will remain in stock for two months. Production cycle is for 2 months. Credit period allowed by suppliers is 2 months. Sales are made to three zones:

Zone	Percentage of sale	Mode of Credit
A	50%	Credit period of 2 months
B	30%	Credit period of 3 months
C	20%	Cash Sales

There are no cash purchases and cash balance will be ₹ 1,11,000

The company plans to apply for a working capital financing from bank for the year 2022-23. ESTIMATE Net Working Capital of the Company receivables to be taken on sales and also COMPUTE the maximum permissible bank finance for the company using 3 criteria of Tandon Committee Norms. (Assume stock of finished goods to be a core current asset)

Ans

Cost Structure

		2021-22			2022-23	
Particulars	**Calculations**	**P.U.**	**Amount (p.u. X units)**	**Calculations**	**P.U.**	**Amount (p.u. X units)**
Direct Material	40% of SP	₹24	₹28,80,000	Same as PY	₹24	₹43,20,000
Direct labour	Given	₹20	₹24,00,000	20*1.1	₹22	₹39,60,000
Direct Expenses	bal. fig.	₹4	₹4,80,000	4*1.5	₹6	₹10,80,000

Total Cost	SP - Profit	₹48	₹57,60,000		₹52	₹93,60,000
Profit	(SP/125x25)	₹12	₹14,40,000	52*25%	₹13	₹23,40,000
Sales	3 x Direct Labour p.u.	₹60	₹72,00,000		₹65	₹1,17,00,000
*units=		₹72,00,000 / ₹60 =1,20,000				1,20,000/60 x 90=1,80,000

Operating Cycle

Raw material holding period	1 month
Finished Goods holding period	2 months
WIP conversion period	2 months
Creditor Payment Period	2 months
Receivables Collection Period	2/3 months

Estimation of Working Capital		
Particulars	**Calculation**	**Amount**
Current Assets		
Stock of Raw Material	43,20,000 x 1/12	₹3,60,000
Stock of WIP		
RM cost	₹43,20,000	
Labour cost	₹19,80,000	
Direct Exp cost	₹5,40,000	
Total WIP Cost	₹68,40,000	
Stock of WIP	68,40,000 x 2/12	₹11,40,000
Stock of Finished Goods	93,60,000 x 2/12	₹15,60,000
Receivables (on sales)		
A	1,17,00,000 x 50% x 2/12	₹9,75,000
B	1,17,00,000 x 30% x 3/12	₹8,77,500
C	NIL	-
Cash Balance	Given	₹1,11,000
Total Current Assets		**₹ 50,23,500**
Current Liabilities		
Payables	*₹44,40,000 x 2/12	₹7,40,000
Net Working Capital		**₹ 42,83,500**

Opening RM stock = 28,80,000 x 1/12= ₹2,40,000

* RM purchased = RM consumed – Opening Stock + Closing Stock

= ₹43,20,000 – ₹2,40,000 + ₹3,60,000

= ₹44,40,000

Computation of Maximum Permissible Bank Finance			
Method	**Formula**	**Calculation**	**₹**
I	75% x (Current Assets-Current Liabilities)	75% x (₹50,23,500 - ₹7,40,000)	₹32,12,625
II	75% x Current Assets-Current Liabilities	75% x ₹50,23,500 - ₹7,40,000	₹30,27,625
III	75% x (Current Assets-Core CA)- Current Liabilities	75% x (₹50,23,500- ₹15,60,000) - ₹7,40,000	₹18,57,625

Q.15 A regular customer of your company has approached to you for extension of credit facility for purchasing of goods. On analysis of past performance and on the basis of information supplied, the following pattern of payment schedule emerges:

Pattern of Payment Schedule	
At the end of 30 days	20% of the bill
At the end of 60 days	30% of the bill.
At the end of 90 days	30% of the bill
At the end of 100 days	18% of the bill
Non-recovery	2% of the bill

The customer wants to enter into a firm commitment for purchase of goods of ₹ 40 lakhs in 2022, 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 ₹ 400 on which a profit of ₹ 20 per unit is expected to be made. It is anticipated that taking up of this contract would mean an extra recurring expenditure of ₹ 20,000 per annum. If the opportunity cost is 18% per annum, would you as the finance manager of the company RECOMMEND the grant of credit to the customer? Assume 1 year = 360 days.

Ans

Statement showing the Evaluation of credit Policies

Particulars	**Proposed Policy ₹**
A. Expected Profit:	
(a) Credit Sales	**40,00,000**
(b) Total Cost	
(i) Variable Costs (₹ 380 x 10000 units)	38,00,000
(ii) Recurring Costs	20,000
	38,20,000
(c) Bad Debts	**80,000**
(d) Expected Profit [(a) – (b) – (c)]	**1,00,000**
B. Opportunity Cost of Investments in Receivables	**1,31,790**
C. Net Benefits (A – B)	**(31,790)**

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

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

Particulars	20%	30%	30%	18%	Total
A. Total Cost	7,64,000	11,46,000	11,46,000	6,87,600	**37,43,600**
B. Collection period	30/360	60/360	90/360	100/360	
C. Required Rate of Return	18%	18%	18%	18%	
D. Opportunity Cost (A × B × C)	11,460	34,380	51,570	34,380	**1,31,790**

Q.16 Consider the following figures and ratios:

(i)	Sales for the year (all credit)	₹ 1,05,00,000
(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 as on 31/3/2022 based on above details.

(b) The statement showing working capital requirement if the company wants to make a provision for contingencies @ 14 percent of net working capital.

Ans **Working Notes:**

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

= ₹ 1,05,00,000 – ₹ 36,75,000

= ₹ 68,25,000

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

$$= \frac{₹\ 68,25,000}{6} ₹ = ₹\ 11,37,500$$

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

$$= \frac{₹\ 68,25,000}{1.5} ₹$$

= ₹ 45,50,000

(iv) Current Assets:

Current Ratio = 2.5 and Liquid Ratio = 1.5

Inventories (Stock) = 2.5 – 1.5 = 1

Current Assets $= \text{Amount of Inventories}\left(\text{Stock}\right) \times \frac{2.5}{1}$

$= ₹11,37,500 \times \frac{2.5}{1} = ₹\ 28,43,750$

(v) Liquid Assets (Receivables and Cash)

= Current Assets – Inventories (Stock)

= ₹ 28,43,750 – ₹ 11,37,500

= ₹ 17,06,250

(vi) Receivables (Debtors) $= \text{Sales} \times \frac{\text{Debtors Collection period}}{12}$

$= ₹1,05,00,000 \times \frac{1}{12}$

= ₹ 8,75,000

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

= ₹ 17,06,250 – ₹ 8,75,000 = ₹ 8,31,250

(viii) Net worth $= \frac{\text{Fixed Assets}}{1.3}$

$= \frac{₹45,50,000}{1.3} = ₹\ 35,00,000$

(ix) Reserves and Surplus

Reserves and Share Capital = Net worth

Net worth = 1 + 1.5 = 2.5

Reserves and Surplus $= ₹35,00,000 \times \frac{1}{2.5}$

= ₹ 14,00,000

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

= ₹ 35,00,000 – ₹ 14,00,000

= ₹ 21,00,000

(xi) Current Liabilities = Current Assets/ Current Ratio

$= \frac{₹28,43,750}{2.5} = ₹\ 11,37,500$

(xii) Long-term Debts

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

Long-term Debts = ₹ 35,00,000 × 0.7875 = ₹ 27,56,250

(a) Balance Sheet

Particulars	Figures as at 31-03-2022 (₹)	Figures as at 31-03-2021 (₹)
I. EQUITY AND LIABILITIES		
Shareholders' funds		
(a) Share capital	21,00,000	-
(b) Reserves and surplus	14,00,000	-
Non-current liabilities		
(a) Long-term borrowings	27,56,250	-
Current liabilities	11,37,500	-
TOTAL	**73,93,750**	**-**
II. ASSETS		
Non-current assets		
Fixed assets	45,50,000	-
Current assets		
Inventories	11,37,500	-
Trade receivables	8,75,000	-
Cash and cash equivalents	8,31,250	-
TOTAL	**73,93,750**	**-**

(b) Statement Showing Working Capital Requirement

Particulars	(₹)	(₹)
A. Current Assets		
(i) Inventories (Stocks)		11,37,500
(ii) Receivables (Debtors)		8,75,000
(iii) Cash in hand & at bank		8,31,250
Total Current Assets		28,43,750
B. Current Liabilities:		
Total Current Liabilities		11,37,500
Net Working Capital (A – B)		17,06,250
Add: Provision for contingencies (14% of Net Working Capital)		2,38,875
Working capital requirement		19,45,125

Q.17 Nirmoh Limited wants to avail short-term loan from the bank. However, bank grants short term loan by keeping the collateral in the form of accounts receivable. A bank is analyzing the receivables of Nirmoh Limited to identify acceptable collateral for a short-term loan.

The current policy of the company is 3/10 net 40. Bank will lend only to the extent of 90% of acceptable receivables at an interest rate of 12% only if both the conditions mentioned below are fulfilled. Bank will keep a reserve of 5% for cash discount & returns

(a) Customers are not currently overdue for more than 5 days to the net period

(b) Average aging (payment period) of the customer should not exceed 15 days past the net period.

If any of the above conditions are not fulfilled, the bank will lend 65% of the receivables subject to a reserve of 15% and the interest rate will be charged at 15% on such accounts. The corporate tax rate applicable is 25%.

On the scrutiny of all the receivables, following are the acceptable receivables considered for lending-

Accounts	Amount (₹)	Outstanding in Days since invoiced	Average Aging (payment period) in Days
DR 01	50,000	37	40
DR 02	25,000	25	48
DR 03	1,20,000	47	49
DR 04	72,000	10	56
DR 05	45,000	30	30
DR 06	1,75,000	39	50
DR 07	19,000	55	25
DR 08	54,000	44	54
DR 09	1,05,000	15	25
DR 10	37,000	22	75

You are required to CALCULATE:

(a) Total amount lend by the bank

(b) Effective Interest cost (%) to the company

Ans **(A)** **Condition (a)** says that accounts shouldn't be overdue for more than 5 days to the net period. In other words, it means those accounts who are overdue by 45 days (40 days + 5 additional days), will not fulfill condition a) and thus will not be eligible for 90% lending.

Therefore, from the above, we can see that **Accounts DR 03 & DR 07** are overdue for more than 45 days and hence will not be eligible for 90% lending.

Condition (b) says that average receivables ageing (payment period) should not exceed 15 days to the net period i.e. it should not exceed 55 days (40 days + 15 days = 55 days). Therefore, from the above, we can see that **Accounts DR 04 & DR 10** has an ageing of more than 55 days. Hence, they would also not be eligible for 90% lending.

Amount of Bank Lending:

Accounts	Bank Lending at 90%	Bank Lending at 65%
DR 01	50,000	-
DR 02	25,000	-
DR 03	-	1,20,000
DR 04	-	72,000
DR 05	45,000	-
DR 06	1,75,000	-
DR 07	-	19,000
DR 08	54,000	-
DR 09	1,05,000	-
DR 10	-	37,000
Total	**4,54,000**	**2,48,000**
(-) Reserve	22,700 {4,54,000 x 5%}	37,200 {2,48,000 x 15%}
Net	**4,31,300**	**2,10,800**
Loan	**3,88,170**	**1,37,020**

Total short-term loan granted by the bank = ₹ 5,25,190

(B) Calculation of the Effective Interest Cost

Interest at 12% (On 90% lending) = 3,88,170 x 0.12 = 46,580.4

Interest at 15% (On 65% lending) = 1,37,020 x 0.15 = 20,553

Total Interest = ₹ 67,133.4

Effective Interest Cost (%) = Interest (1-t) / Total Short-term Loan

= 67,133.4 (1-0.25) / 5,25,190

Effective Interest Cost (%) = 9.59%

Q.18 . (a) LIST the emerging issues (any four) affecting the future role of CFO.

(b) EXPLAIN any four Methods for Computation of Cost of Equity Capital.

(c) Do the profitability index and the NPV criterion of evaluating investment proposals lead to the same acceptance-rejection and ranking decisions? In what SITUATIONS will they give conflicting results?

Ans

(a) Emerging Issues/Priorities Affecting the Future Role of Chief Financial Officer (CFO)

(i) **Regulation**: Regulation requirements are increasing and CFOs have an increasingly personal stake in regulatory adherence.

(ii) **Globalisation:** The challenges of globalisation are creating a need for finance leaders to develop a finance function that works effectively on the global stage and that embraces diversity.

(iii) **Technology:** Technology is evolving very quickly, providing the potential for CFOs to reconfigure finance processes and drive business insight through 'big data' and analytics.

(iv) **Risk:** The nature of the risks that organisations face are changing, requiring more effective risk management approaches and increasingly CFOs have a role to play in ensuring an appropriate corporate ethos.

(v) **Transformation:** There will be more pressure on CFOs to transform their finance functions to drive a better service to the business at zero cost impact.

(vi) **Stakeholder Management:** Stakeholder management and relationships will become important as increasingly CFOs become the face of the corporate brand.

(vii) **Strategy:** There will be a greater role to play in strategy validation and execution, because the environment is more complex and quick changing, calling on the analytical skills CFOs can bring.

(viii) **Reporting:** Reporting requirements will broaden and continue to be burdensome for CFOs.

(ix) **Talent and Capability:** A brighter spotlight will shine on talent, capability and behaviours in the top finance role.

(b) Cost of equity capital is the rate of return which equates the present value of expected dividends with the market share price.

Methods for Computation of Cost of Equity Capital

- **Dividend Price Approach (:** Here, cost of equity capital is computed by dividing the expected dividend by market price per share.

$$K_e = \frac{D_1}{P_o}$$

- **Earning/ Price Approach:** The advocates of this approach co-relate the earnings of the company with the market price of its share.

$$K_e = \frac{E}{P}$$

- **Realized Yield Approach:** According to this approach, the average rate of return realized in the past few years is historically regarded as 'expected return' in the future. The yield of equity for the year is:

$$Y_t = \frac{D_t + P_t}{P_{t-1}}$$

- **Capital Asset Pricing Model Approach (CAPM):** CAPM model describes the risk-return trade-off for securities. It describes the linear relationship between risk and return for securities.

$K_e = R_f + ß\ (R_m - R_f)$

(c) In the most of the situations the Net Present Value Method (NPV) and Profitability Index (PI) yield same accept or reject decision. In general items, under PI method a project is acceptable if profitability index value is greater than 1 and rejected if it less than 1. Under NPV method a project is acceptable if Net present value of a project is positive and rejected if it is negative. Clearly a project offering a profitability index greater than 1 must also offer a net present value which is positive. But a conflict may arise between two methods if a choice between mutually exclusive projects has to be made. Consider the following example:

	Project A	Project B
PV of Cash inflows	3,00,000	80,000
Initial cash outflows	1,00,000	40,000
Net present value	2,00,000	40,000
P.I	$\frac{3,00,000}{1,00,000} = 3$	$\frac{80,000}{40,000} = 2$

According to NPV method, project A would be preferred, whereas according to profitability index method project B would be preferred.

This is because Net present value gives ranking on the basis of absolute value of rupees, whereas, profitability index gives ranking on the basis of ratio. Although PI method is based on NPV, it is a better evaluation technique than NPV in a situation of capital rationing.