

Working Capital Management

Question No. 1

Following information is forecasted by the CS Limited for the year ending 31st March, 2011 :

PARTICULARS	Balance as at 1 st April, 2012 ₹	Balance as at 31 st March, 2013 ₹
Raw material	45,000	65,356
Work in progress	35,000	51,300
Finished goods	60,181	70,175
Debtors	1,12,123	1,35,000
Creditors	50,079	70,469
Annual purchase of material		4,00,000
Annual cost of production		7,50,000
Annual cost of goods sold		9,15,000
Annual operating cost		9,50,000
Annual sales		11,00,000

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 a year
- (iii) Amount of working capital requirement.

Answer

Avg Raw material = ₹55,178;

Avg WIP = ₹ 43,150;

Avg FG = ₹ 65,178;

Avg Debtors = ₹ 1,23,562;

Avg Creditors = ₹60,274;

Material consumption = op RM + purchases – Closing RM = 45,000+4,00,000-65,356
= 379,644;

Calculation of operating cycle

	Calculation	Days
R = Avg RM / Mat consumption * 365	(55,178 / 379644 * 365)	53
W = Avg WIP / COP * 365	(43,150 / 7,50,000* 365)	21
F = Avg FG / COGS * 365	(65,178 / 9,15,000 * 365)	26
D= Avg Drs / Cr Sales * 365	(1,23,562 / 11,00,000 * 365)	41
-C = Avg Crs / Cr purchases * 365	(60,274 / 4,00,000 * 365)	-55
	Operating cycle	86

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Cash turnover = $365 / 86 = 4.2$ times

Amount of working capital requirement = $\text{Total cost} / 365 * \text{cycle} = 9,50,000 / 365 * 86 = ₹ 2,23,836$;

Question No. 2

A proforma cost sheet of a company provides the following particulars

Particulars	Amount per unit ₹
Raw material 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 supplier is three weeks and company allow four weeks credits to its debtors. The lag in payment of wages is one week and lag in payment of overhead is two weeks

The company sells one fifth of the output against cash and maintains cash in hand and 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. Assume four week equal to one month.

Answer

WN – 1:

Units p.a. – 1,30,000

Units p.m. – $2,500 * 4 = 10,000$

Units p.w. = $1,30,000/52 = 2,500$

WN – 2:

WIP cost per unit:

	TCB	CCB
RM (80%)	80	80
Direct labour	30	30
Over heads	60	60

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	170	170
WN – 3:		
FG cost p.u.	TCB	CCB
RM	100	100
Direct labour	37.5	37.5
Over heads	75	75
	212.5	212.5

WN – 4:		
Debtors p.u.	TCB	CCB
Sales	250	250
- Profit	-	37.5
	250	212.5

Statement showing W.C. requirement

Particulars	Calculation	TCB	CCB
<u>Current assets</u>			
Raw Material	$10,000 * 1 * 100$	10,00,000	10,00,000
WIP	$2,500 * 1 * 170$	4,25,000	4,25,000
FG	$2,500 * 2 * 212.5$	10,62,500	10,62,500
Debtors (80% credit)	$2,500 * 4 * 212.5 * 4/5$	20,00,000	17,00,000
Cash		37,500	37,500
Total C.A		45,25,000	42,25,000
<u>Current Liability:</u>			
Creditors	$2,500 * 3 * 100$	7,50,000	7,50,000
O/S wages	$2,500 * 1 * 37.5$	93,750	93,750
O/S OH	$2,500 * 2 * 75$	3,75,000	3,75,000
		12,18,750	12,18,750
		33,06,250	30,06,250

Methods of lending – Tandon Committee suggestions

This concept is not given in ICAI material) Additionally provided to you. Read once – only for understanding a new concept. Not necessary for exams.

Like many other activities of the banks, method and quantum of short-term finance that can be granted to a corporate was mandated by the Reserve Bank of India till 1994. This control was exercised on the lines suggested by the recommendations of a study group headed by Shri Prakash Tandon.

The study group headed by Shri Prakash Tandon, the then Chairman of Punjab National Bank, was constituted by the RBI in July 1974 with eminent personalities drawn from leading banks, financial institutions and a wide cross-section of the Industry with a view to study the entire gamut of Bank's finance for working capital and suggest ways

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for optimum utilisation of Bank credit. This was the first elaborate attempt by the central bank to organise the Bank credit. The report of this group is widely known as Tandon Committee report. ***Most banks in India even today continue to look at the needs of the corporate in the light of methodology recommended by the Group.***

As per the recommendations of Tandon Committee, the corporates should be discouraged from accumulating too much of stocks of current assets and should move towards very lean inventories and receivable levels. The committee even suggested the maximum levels of Raw Material, Stock-in-process and Finished Goods which a corporate operating in an industry should be allowed to accumulate these levels were termed as inventory and receivable norms. Depending on the size of credit required, the funding of these current assets (working capital needs) of the corporate could be met by one of the following methods:

First Method of Lending:

Banks can give maximum 75% working capital gap, i.e. total current assets less current liabilities other than bank borrowings (called Maximum Permissible Bank Finance or MPBF) and the balance should be financed by owned funds and other ways. This approach was considered suitable only for very small borrowers i.e. where the requirements of credit were less than ₹10 lacs.

Second Method of Lending:

This is applicable for the entities who requires more than ₹ 10 lakh.

Under this method, Maximum WC loan can be given = **(75% Current assets) – Current liabilities;**

So, Total current liabilities inclusive of bank borrowings could not exceed 75% of current assets.

Third Method of Lending:

Under this method,

Maximum WC loan can be given = **75% of (Current Assets – Core current assets) – Current Liabilities**

CORE CURRENT ASSETS are the minimum level of raw material, WIP & FG that the company has to maintain at every point of time. (Generally, this is given in the question)

(This method was not accepted for implementation and hence is of only academic interest).

Question No. 3

The data of ABC Ltd is as under:

Production for the year	69,000 units
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Finished goods inventory	3 months
Raw materials inventory	2 months consumption
Production process	1 month
Credit allowed by Creditors	2 months
Credit given to debtors	3 months
Selling price per unit	₹ 50 each
Raw material	50% of selling price
Direct wages	10% of selling price
Overheads	20% of selling price

There is regular production and sales cycle, and wages and overheads occur evenly. Wages are paid in the next month of accrual. Material is introduced in the beginning of production cycle. Work-in-process involves use of full unit of raw materials in the beginning of manufacturing process and other conversion costs equivalent to 50%.

You are required to find out:-

1. Its working capital requirement, and
2. its permissible bank borrowing as per 1st and 2nd method of lending under the Tandon committee norms.

Answer

WN – 1:

Total units p.a. – 69,000

Units p.m. – 69,000 / 12 = 5,750

WN – 2:

WIP cost per unit:

	TCB	CCB
RM	25	25
Direct labour	2.5	2.5
Over heads	5	5
	32.5	32.5

WN – 3:

FG cost p.u.	TCB	CCB
RM	25	25
Direct labour	5	5
Over heads	10	10
	40	40

WN – 4:

Drs p.u.	TCB	CCB
Sales	50	50
- Profit	-	10
	50	40

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Statement showing W.C. requirement

Particulars	Calculation	TCB	CCB
<u>Current assets</u>			
Raw Material	$5,750 * 25 * 2$	2,87,500	2,87,500
WIP	$5,750 * 1 * 32.5$	1,86,875	1,86,875
FG	$5,750 * 3 * 40$	6,90,000	6,90,000
Debtors	$5,750 * 3 * 50$	8,62,500	6,90,000
	$5,750 * 3 * 40$		
Total C.A		20,26,875	18,54,375
<u>Current Liability:</u>			
Creditors	$5,750 * 2 * 25$	2,87,500	2,87,500
O/S wages	$5,750 * 1 * 5$	28,750	28,750
Total C.L		3,16,250	3,16,250
W.C. Requirement		17,10,625	15,38,125

Methods of Bank as per TANDON COMMITTEE:

	TCB	CCB
Method 1:		
75% (CA - CL)	$17,10,625 * 75\%$	$15,38,125 * 75\%$
	= 12,82,969	= 11,53,594
Method 2:		
75% of CA - CL	$15,20,156 - 3,16,250$	$13,90,781.25 - 3,16,250$
	= 12,03,906.25	= 10,74,531.25
Method 3:		
75% of (CA - CCA) - CL	It cannot be calculated as core current assets information is not given in the problem.	

Question No. 4

XYZ Co. Ltd. is a pipe manufacturing company. Its production cycle indicate that material are introduced in the beginning of the production cycle. Wages and overhead accrue evenly throughout the period of the cycle. Wages aloe paid in the next month following the month of accrual. Work in progress include full unit of raw materials used in the beginning. of the production process and 50% of wages and overhead are supposed to be conversion costs. Detail of production process and the components of working capital are as follows:

Production of pipes	12,00,000 units
Duration of the production cycle	One month

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Raw material inventory held	One month
Finished goods inventory held for	Two month
Credit allowed by creditors	One month
Credit given to debtors	Two month
Cost price of raw material	₹ 60 per unit
Direct wages	₹ 10 per unit
Overheads	₹ 20 Per unit
Selling price of finished goods	₹ 100 per unit

Required to calculate:

1. The amount of working capital required for the company
2. Its maximum permissible bank finance under all the three methods of working capital of lending norms as suggested by the Tondon Committee assuming the value of core current assets ₹ 1,00,00,000

Answer

WN – 1:

Total units p.a. – 12,00,000

Units p.m. – 12,00,000 /12 = 1,00,000

WN – 2:

WIP cost per unit:

	TCB	CCB
RM	60	60
Direct labour	5	5
Over heads	10	10
	<u>75</u>	<u>75</u>

WN – 3:

FG cost p.u	TCB	CCB
RM	60	60
Direct labour	10	10
Over heads	20	20
	<u>90</u>	<u>90</u>

WN – 4:

Drs p.u	TCB	CCB
Sales	100	100
- Profit	-	10
	<u>100</u>	<u>90</u>

Statement showing W.C. requirement

Particulars	Calculation	TCB	CCB
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Working Capital Management

Current assets

Raw Material	1,00,000 * 60 * 1	60,00,000	60,00,000
WIP	1,00,000 * 1 * 75	75,00,000	75,00,000
FG	1,00,000 * 2 * 90	1,80,00,000	1,80,00,000
Debtors	1,00,000 * 2 * 100	2,00,00,000	1,80,00,000
	1,00,000 * 2 * 90		
Total C.A		5,15,00,000	4,95,00,000

Current Liability:

Creditors	1,00,000 * 1 * 60	60,00,000	60,00,000
O/S wages	1,00,000 * 1 * 10	10,00,000	10,00,000
Total C.L		70,00,000	70,00,000

W.C. Requirement

4,45,00,000 4,25,00,000

Methods of Bank as per TANDON COMMITTEE:

Particulars	TCB	CCB
Method 1:		
75% (CA - CL)	= 3,33,75,000	= 3,18,75,000
Method 2:	= (3,86,25,000 – 70,00,000)	= (3,71,25,000 – 70,00,000)
75% of CA - CL	= 3,16,25,000	= 3,01,25,000
Method 3:		
75% of (CA – Core CA) – CL	= 75% (515 – 100) – 70	= 75% (495 – 100) – 70
	= 311.25 – 70	= 296.25 – 70
	= 2,41,25,000	= 2,26,25,000

Question No. 5

The following information has been extracted from the record of a Company

Product Cost sheet	₹ / Unit
Raw Material	45
Direct wages	20
Overheads	40
Total	105
Profit	15
Selling price	120

- Raw material are in stock on an average of two months
- The material are in process on an average for 4 weeks. The degree of completion is 50% for each item.

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- Finished goods stock on an average is for one month.
- Time lag in payment of wages and overhead is 1.5 weeks.
- Time lag in receipts of proceeds from debtors is 2 months.
- Credit allowed by supplier is one month.
- 20% of the output is sold against cash.
- The company expects to keep cash balance of ₹ 100000.
- Take 52 weeks per annum

The company is poised for a manufacture of 1,44,000 units in the year. You are required to prepare a statement showing the working capital requirements of the company.

Answer

WN – 1:

Total units p.a. – 1,44,000

Units p.m – 1,44,000/12 = 12,000

Units p.week. – 1,44,000/52 = 2,770

WN – 2:

WIP cost p.a. (50%)

	TCB	CCB
RM	22.5	22.5
Direct labour	10	10
Over heads	20	20
	52.5	52.5

WN – 3:

FG cost p.u	TCB	CCB
RM	45	45
Direct labour	20	20
Over heads	40	40
	105	105

WN – 4:

Drs p.u	TCB	CCB
Sales	120	120
- Profit	-	15
	120	105

Statement showing W.C. requirement

Particulars	Calculation	TCB	CCB
<u>Current assets</u>			
Raw Material	12,000 * 2 * 45	10,80,000	10,80,000
WIP	2,770 * 4 * 52.5	5,81,700	5,81,700

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FG	$12,000 * 1 * 105$	12,60,000	12,60,000
Debtors	$12,000 * 2 * 120 * 80\%$ $12,000 * 2 * 105 * 80\%$	23,04,000	20,16,000
Cash		1,00,000	1,00,000
Total C.A		53,25,700	50,37,700
<u>Current Liability:</u>			
Creditors	$12,000 * 1 * 45$	5,40,000	5,40,000
O/S wages	$2,770 * 1.5 * 20$	83,100	83,100
O/S OHs	$2,770 * 1.5 * 40$	1,66,200	1,66,200
Total C.L		7,89,300	7,89,300
W.C. Requirement		45,36,400	42,48,400

Question No. 6

A proforma cost sheet of a Company provides the following data:

Particulars	₹
Raw materials per unit	117
Labour cost per unit	49
Factory overhead per unit (include ₹ 18 dep.)	98
Total cost per unit	264
Profit	36
Selling price per unit	300
Following additional information is available:	
Average raw material in stock	4 weeks
Average work in progress in stock (% completion with respect to material 80%, other 60%)	2 weeks
Finished goods in stock	3 weeks
Credit period allowed to debtors	6 weeks
Credit availed from suppliers	8 weeks
Time lag in payment of wages	1 week
Time lag in payment of overheads	2 weeks

The Company sells one fifth of the output against cash and maintains cash balance of ₹ 2,50,000.

Required:

Prepare a statement showing the estimate of working capital needed to finance a budgeted activity level of 78,000 units of production. You may assume that production is carried on evenly throughout the year and wages and overhead accrue similarly.

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Answer

Estimation of Working Capital Needs:

I Investment in Inventory

i. Raw material Inventory = $78,000 * (4/52) * \text{Rs.}117 = \text{Rs.}7,02,000$

ii. Work-in-Process Inventory

Material = $78,000 * (2/52) * 0.8 * 117 = \text{Rs.} 2,80,800$

Labour and overhead cost (Other than depreciation) = $78,000 * (2/52) * 0.6 * 129 = 2,32,200$

Total WIP value = $\text{Rs.}5,13,000$

iii. Finished Goods Inventory (cash cost)

= $78,000 * (3/52) * 246 = \text{Rs.}11,07,000$

II Investment in Debtors (Cash Cost)

= $78,000 * (6/52) * 0.8 * 246 = \text{Rs.}17,71,200$

III Cash balance

Rs. 2,50,000

Investment in Current assets

Rs.43,43,200

Current liabilities and deferred payment

Rs.

i. Creditors = $78,000 * (8/52) * 117 =$

14,04,000

ii. Wages Outstanding = $78,000 * (1/52) * 49 =$

73,500

iii. Overheads outstanding (cash cost) = $78,000 * (2/52) * 80 =$
2,40,000

Total Deferred payments

17,17,500

Net Working capital (Current assets – Non-interest bearing liabilities)

$43,43,200 - 17,17,500 = \text{Rs.}26,25,700.$

Question No. 7

Q Ltd. sells goods at a uniform rate of gross profit of 20% on sales including depreciation as part of cost of production. Its annual figures are as under:

Particulars	₹
Sales (At 2 months credit)	24,00,000
Materials consumed (Suppliers credit 2 months)	6,00,000
Wages paid (Monthly at the beginning of the subsequent month)	4,80,000
Manufacturing expenses (cash expenses are paid - one month in arrear)	6,00,000
Administration expenses (cash expenses are paid - one month in arrear)	1,50,000
Sales promotion expenses (paid quarterly in advance)	75,000

The Company keeps **one** month stock each of raw materials and finished goods. A minimum cash Balance of ₹ 80,000 is always kept. The company wants to adopt a 10%

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safety margin in the maintenance of working capital. The company has no work-in-progress. Find out the requirements of working capital of the company on cash cost basis.

Answer

Statement showing W.C. requirement

Particulars	Calculation	CCB
<u>Current assets</u>		
Raw Material	$6,00,000 * 1/12$	50,000
FG (24,00,000 – 4,80,000 – 2,40,000)	$16,80,000 * 1/12$	1,40,000
Debtors	$19,05,000 * 2/12$	3,17,500
Cash		80,000
Advance	$75,000 * 1/4$	18,750
Total C.A		6,06,250
<u>Current Liability:</u>		
Creditors	$6,00,000 * 2/12$	1,00,000
O/S wages	$4,80,000 * 1/12$	40,000
O/S Manf exp	$6,00,000 * 1/12$	50,000
O/S Admin exp	$1,50,000 * 1/12$	12,500
Total C.L		2,02,500
W.C. Requirement		4,03,750
10% safety margin		40,375
		4,44,125

WN 1:

Calculation of depreciation:

Sales	24,00,000
- Material	(6,00,000)
- Wages	(4,80,000)
- Manufacturing exp	(6,00,000)
	7,20,000
- G.P 20%	(4,80,000)
Depreciation	2,40,000

WN 2:

COGS	19,20,000
+ Admin Exp	1,50,000
+ Selling and distribution	75,000
Total cost	21,45,000
+ Profit (b/f)	2,55,000
Sales	24,00,000

Cash cost for debtors = Sales – Dep – profit = 24,00,000 – 2,40,000 – 2,55,000 = Rs. 19,05,000

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Question No. 8

ABC Co. wishes to arrange overdraft facilities with its Bankers during the period April to June 2013, when it will be manufacturing mostly for stock. Prepare a Cash Budget for the above period from the following data, indicating the extent of the bank facilities the company will require at the end of each month:

A.

Month	Sales (₹)	Purchases (₹)	Wages (₹)
February, 2013	1,80,000	1,24,800	12,000
March, 2013	1,92,000	1,44,000	14,000
April, 2013	1,08,000	2,43,000	11,000
May, 2013	1,74,000	2,46,000	10,000
June, 2013	1,26,000	2,68,000	15,000

B. 50 % of credit sales are realised in the month following the sales and the remaining 50 % in the second month following. Creditors are paid in the month following the month of purchase. Wages are paid in next month.

C. Cash at Bank on 1-4-2013 (estimated) ₹ 25,000.

Answer

Cash Budget

Particulars	April	May	June
Opening cash balance	25,000	53,000	-51,000
<u>Credit sales</u>			
50% of last month	(1,92,000 * 50%) 96,000	(1,08,000 * 50%) 54,000	(1,74,000 * 50%) 87,000
50% of 2nd last month	(1,80,000 * 50%) 90,000	(1,92,000 * 50%) 96,000	(1,08,000 * 50%) 54,000
Total A	2,11,000	2,03,000	90,000
Creditors (Previous month purchases)	1,44,000	2,43,000	2,46,000
Wages of last month paid in this month	14,000	11,000	10,000
Total B	1,58,000	2,54,000	2,56,000
Closing balance (A - B)	53,000	-51,000	-1,66,000

Question No. 9

On 30th September, 2013 the balance sheet of M Ltd., (retailer) was as under:

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PARTICULARS	₹	PARTICULARS	₹
Equity Shares of (10 each fully paid	20,000	Equipment (at cost)	20,000
Reserves	10,000	Less: Depreciation	5,000
Trade creditors	40,000		15,000
Proposed dividend	15,000	Stock	20,000
		Trade debtors	15,000
		Balance at bank	35,000
Total	85,000	Total	85,000

The company is developing a system of forward planning and on 1st, 2013 it supplies the following information :-

PARTICULARS	Sales		Purchases
	Credit ₹	Cash ₹	Credit ₹
September 2013 (actual)	15,000	14,000	40,000
October 2013 (budget)	18,000	5,000	23,000
November 2013 (budget)	20,000	6,000	27,000
December 2013 (budget)	25,000	8,000	26,000

All trade debtors are allowed one month's credit and are expected to settle promptly.

All trade creditors are paid in the months following delivery.

On 1st October, 2013, all equipments were replaced at a cost of ₹ 30,000. ₹ 14,000 was allowed in exchange for the old equipment and a net payment of ₹ 16,000 was made.

The proposed dividend will be paid in Dec., 2013.

The following expenses will be paid. Wages ₹ 3,000 per month. Administration ₹ 1,500 per month. Rent ₹ 3,600 for the year up to 30th Sept. 2014 (to be paid in Oct, 2013).

You are required to prepare a cash budget for the months of October, November, and December, 2013.

Answer

Cash Budget

Particulars	October	November	December
Opening cash balance	35,000	(9,100)	(12,600)
Cash sales	5,000	6,000	8,000
<u>Cr. Sales</u>			
Last month Cr. Sales	15,000	18,000	20,000
Total A	55,000	14,900	15,400
Creditors	40,000	23,000	27,000

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(Previous month purchases)			
Equipment's (net)	16,000	-	-
Proposed Dividend	-	-	15,000
Wages	3,000	3,000	3,000
Admin exp	1,500	1,500	1,500
Rent	3,600	-	-
Total B	64,100	27,500	46,500
Closing balance (A - B)	(9,100)	(12,600)	(31,100)

Question No. 10

ABC Company Ltd. has given the following particulars. You are required to prepare a cash budget for the three months ending 31st December, 2013 :

(a)

Months	Sales ₹	Materials ₹	Wages ₹	Overheads ₹
August	20,000	10,200	3,800	1,900
September	21,000	10,000	3,800	2,100
October	23,000	9,800	4,000	2,300
November	25,000	10,000	4,200	2,400
December	30,000	10,800	4,500	2,500

(b) Credit terms are:

(i) Sales / Debtors - 10% sales are on cash basis. 50% of the credit sales are collected next month and the balance in the following month:

(ii) Creditors -
 - Material 2 months
 - wages 1 / 5 months
 - overheads 1 / 2 months

(c) Cash balance on 1st October, 2013 is expected to be ₹ 8,000.

(d) A machinery will be installed in August, 2013 at a cost of ₹ 1,00,000. The monthly installment of ₹ 5,000 is payable from October onwards.

(e) Dividend at 10% on preference share capital of ₹ 3,00,000 will be paid on 1st December, 2013.

(f) Advance to be received for sale of vehicle ₹ 20,000 in December.

(g) Income-tax (advance) to be paid in December ₹ 5,000.

Answer

Cash Budget			
Particulars	October	November	December
Opening cash balance	8,000	7,390	8,180
Cash sales (10%)	2,300	2,500	3,000
<u>Cr. Sales</u>			
50% of Pr. Month	9,450	10,350	11,250

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Balance 2 nd last month sales	9,000	9,450	10,350
Advance Received	-	-	20,000
Total A	28,750	29,690	52,780
<u>Creditors</u>			
Material II nd last month	10,200	10,000	9,800
Wages: 1/5 of last month	760	800	840
4/5 of current mth	3,200	3,360	3,600
<u>Overhead:</u>			
½ of last mth	1,050	1,150	1,200
½ of current mth	1,150	1,200	1,250
Machine instalment	5,000	5,000	5,000
Dividend (3,00,000 * 10%)	-	-	30,000
Advance tax	-	-	5,000
Total B	21,360	21,510	56,690
Closing bal (A - B)	7,390	8,180	(3,910)

WN 1:

Month	Cash sales (10% of sales)	Credit sales (90% of sales)
Aug	2,000	18,000
Sept	2,100	18,900
Oct	2,300	20,700
Nov	2,500	22,500
Dec	3,000	27,000

Question No. 11

ABC & Company is making sales of ₹ 16,00,000 and it extends a credit of 90 days to its customers. However, in order to overcome the financial difficulties, it is considering to change the credit policy. The proposed terms of credit and expected sales are given here under

Policy	Terms	Sales ₹
I	75 days	15,00,000
II	60 days	14,50,000
III	45 days	14,25,000
IV	30 days	13,50,000
V	15 days	13,00,000

The firm has a variable cost of 80% and a fixed cost of ₹ 1,00,000. The cost of capital is 15%. Evaluate different proposed policies and which policy should be adopted? (Year may be taken as 360 days)

Answer

Profitability Statement of credit policy

Working Capital Management

Particulars	Present	I	II	III	IV	V
Credit period in days	90	75	60	45	30	15
Sales	16,00,000	15,00,000	14,50,000	14,25,000	13,50,000	13,00,000
- Variable cost (80%)	12,80,000	12,00,000	11,60,000	11,40,000	10,80,000	10,40,000
Contribution	3,20,000	3,00,000	2,90,000	2,85,000	2,70,000	2,60,000
- Fixed cost	1,00,000	1,00,000	1,00,000	1,00,000	1,00,000	1,00,000
Opp cost: T.C * 15% * days /360	2,20,000	2,00,000	1,90,000	1,85,000	1,70,000	1,60,000
	51,750	40,625	31,500	23,250	14,750	7,125
	1,68,250	1,59,375	1,58,500	1,61,750	1,55,250	1,52,875

Question No. 12

Star Limited, manufacturers of Color TV sets, are considering the liberalization of existing credit terms to three large customers A, B and C. The credit and likely quantity of TV sets that will be lifted by the customers are as follows:

Credit Period (Days)	Quantity Lifted of TV sets		
	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 SP.

The cost of carrying debtors averages 20% per annum.

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

(Assume 360 days in a year for calculation purposes)

Answer

Profitability Statement of credit policy

Particulars	A	B
Credit period in days	0	0
Sales	90,00,000	90,00,000

Working Capital Management

- Variable cost (80%)	72,00,000	72,00,000
Contribution	18,00,000	18,00,000
WC 0 days hence 0	-	-
Profit	18,00,000	18,00,000

Particulars	A	B
Credit period in days	30	30
Sales	90,00,000	1,35,00,000
- Variable cost (80%)	72,00,000	1,08,00,000
Contribution	18,00,000	27,00,000
WC = VC * 20% * days/360	1,20,000	1,80,000
Profit	16,80,000	25,20,000

Particulars	A	B	C
Credit period in days	60	60	60
Sales	90,00,000	1,80,00,000	90,00,000
- Variable cost (80%)	72,00,000	1,44,00,000	72,00,000
Contribution	18,00,000	36,00,000	18,00,000
WC = VC * 20% * days/360	2,40,000	4,80,000	2,40,000
Profit	15,60,000	31,20,000	15,60,000

Particulars	A	B	C
Credit period in days	90	90	90
Sales	90,00,000	2,25,00,000	1,35,00,000
- Variable cost (80%)	72,00,000	1,80,00,000	1,08,00,000
Contribution	18,00,000	45,00,000	27,00,000
WC = VC * 20% * days/360	3,60,000	9,00,000	5,40,000
Profit	14,40,000	36,00,000	21,60,000

Credit period to 3 customers

A = 0 days

B = 90 days

C = 90 days

Question No. 13

A company has prepared the following projections for a year:

Sales	21,000 units
Selling price per unit	₹ 40
Variable cost per unit	₹ 25
Total cost per unit	₹ 35
Credit period allowed	One Month

The company propose to increase the credit period allowed to its customer from one month to two months. It is envisaged that the change in the policy as above will increase the sales by 8%.

Working Capital Management

The company desires a return of 25% on its investment.

You are required to examine and advise whether the proposed credit policy should be implemented or not.

Answer

We can solve this question in two ways

Total cost = 35

Variable cost = 25

So remaining is fixed cost = ₹10

Particulars	Existing policy	Proposed policy
Sales	8,40,000	9,07,200
- Variable cost	5,25,000	5,67,000
contribution	3,15,000	3,40,200
Fixed cost	2,10,000	2,10,000
	1,05,000	1,30,200
Less Opportunity cost	15,313	32,375
Profit after COC	89,688	97,825

Proposed policy should be accepted as the profit after cost of capital is greater.

Alternatively

Present units	21,000
Increase in sales	21,000 * 8% = 1,680
Contribution on increased sales	25,200
(40 – 25) = 15 = 1,680 * 15	
Total cost of present production	7,35,000
21,000 * 35	
Additional variable cost	42,000
1,680 * 25	
Total cost (7,35,000 + 42,000)	7,77,000
Funds blocked for 2 months	1,29,500
7,77,000 * 2/12	
Present funds blocked for 1 month	61,250
7,35,000 * 1/12	
Extra block of funds	1,29,500 – 61,250 = 68,250

Due to change in the credit policy

$$\% \text{ of return} = \frac{\text{contribution increased sales}}{\text{Extra funds employed}}$$

Working Capital Management

$$\frac{25,200}{68,250} * 100 = 36.92\%$$

Note: The return due to change in credit policy comes to 36.92% which is more than desired return of 25%. Hence the proposal of increasing the credit period from one month to 2 months should be accepted.

Question No. 14

A firm has a current sales of ₹ 2,56,48,750. The firm has an utilized capacity. In order to boost its sales, it is considering the relaxation in its credit policy. The proposed terms of the credit will be 60 days credit against the present policy of 45 days. As a result, the bad debts increase from 1.5% to 2% of sales. The firm sales are expected to increase by 10%. The variable operating costs are 72% of the sales. The firm corporate tax rate is 35%, and it requires an after tax return of 15% on its investment. Should the firm change its credit period?

Answer

Profitability Statement of credit policy

Particulars	Present	Increase @ 10%
Credit period	45	60
Sales	2,56,48,750	2,82,13,625
- Variable cost (72%)	1,84,67,100	2,03,13,810
Contribution	71,81,650	78,99,815
- Bad debts (1.5% or 2%)	3,84,731	5,64,273
PBT	67,96,919	73,35,542
Tax @ 35%	23,78,922	-
PAT	44,17,997	47,68,102

$$\text{Increase in profit} = 47,68,102 - 44,17,997 = 3,50,105$$

Receivable Investment	Present	10 % increase
2,56,48,750 * 45/360	32,06,094	47,02,271
2,82,13,625 * 60/360		

Therefore, increase in receivable investment = 47,02,271 – 32,06,094 = 14,96,177

$$\text{Therefore, expected Rate \%} = \frac{\text{Operating profit after tax}}{\text{Increase in receivable investment}} = \frac{3,50,105}{14,96,177} * 100$$

=

$$= 23.40\%$$

The expected rate of return is 23.40% and it can be compared with required rate of return of 15%, since the expected rate of return is more than required rate of return hence it is beneficial (23.40% - 15%) = 8.4% extra return. Hence accept the project.

Question No. 15

Working Capital Management

The sales manager of AB Ltd. suggests that if credit period is given for 1.5 month then sales may likely to increase by ₹ 1,20,000 per annum. Cost of sales amounted to 90% of sales. The risk of non-payment is 5%. Income tax rate is 30%. The expected return on investment is ₹ 3,375 (after tax). Should the company accept the suggestion of Sales manager?

Answer

Credit period	1.5 months
	<u>Rs.</u>
Increase in Sales	1,20,000
- Cost of sales 90%	1,08,000
	12,000
- Bad debts 5%	6,000
PBT	6,000
Tax @ 30%	1,800
	4,200

The company shall accept the project as the return after tax is more than the expected return of Rs. 3,375.

Question No. 16

An engineering company is considering its working capital investment for the year 2012-13. The estimated fixed assets and current liabilities for the next year are ₹ 6.63 crore and 5.967 crore respectively. The sales and EBIT depend on investment in its current assets - particularly inventory and receivables. The company is examining the following alternatives working capital policies:

Working Capital Policy	Investment In current (₹ In crore)	Estimated Sales (₹ In crore)	EBIT (₹ I Crore)
Conservative	11.475	31.365	3.1365
Moderate	9.945	29.325	2.9325
Aggressive	6.630	25.500	2.5500

You are required to calculate the following for each policy:

- i. Rate of return on total assets.
- ii. Net working capital position
- iii. Current assets to fixed assets ratio
- iv. Discuss the risk return trade off of each working capital policy

Answer

(₹ in Crores)

Working Capital Management

	Conservati	Modera	Aggressi
1. Current assets	11.475	9.94	6.63
2. Fixed assets	6.630	6.63	6.63
3. Total assets	18.105	16.57	13.2
4. Current liabilities	5.967	5.96	5.96
5. Estimated sales	31.365	29.32	25.5
6. Estimated EBIT	3.1365	2.932	2.5
7. Current ratio {(1) / (4)}	1.92	1.6	1.1

Computation of following for each policy:

(i) Rate of return on total assets (in percentages): [(6)/(3)] × 100	17.32	17.69	19.23
(ii) Net working capital position : (in crores) [(1)-(4)]	5.508	3.978	0.663
(iii) Current assets to fixed assets ratio: [(1) / (2)]	1.73	1.50	1.00

(iv) Risk-return trade off:

The net working capital or current ratio is a measure of risk. Rate of return on total assets is a measure of return. The expected risk and return are minimum in the case of conservative investment policy and maximum in the case of aggressive investment policy. The firm can improve profitability by reducing investment in working capital.

Question No. 17

You are given below the Profit & Loss Accounts for two years for a company:

Profit and Loss Account

	Year 1	Year 2		Year 1	Year 2
	₹	₹		₹	₹
To Opening stock	80,00,000	1,00,00,000	By Sales	8,00,00,000	10,00,00,000
To Raw materials	3,00,00,000	4,00,00,000	By Closing stock	1,00,00,000	1,50,00,000
To Stores	1,00,00,000	1,20,00,000	By Misc. Income	10,00,000	10,00,000
To Manufacturing Expenses	1,00,00,000	1,60,00,000			
To Other Expenses	1,00,00,000	1,00,00,000			
To Depreciation	1,00,00,000	1,00,00,000			
To Net Profit	1,30,00,000	1,80,00,000		-	-

Working Capital Management

	9,10,00,000	11,60,00,000		9,10,00,000	11,60,00,000
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Sales are expected to be ₹ 12,00,00,000 in year 3.

As a result, other expenses will increase by ₹ 50,00,000 besides other charges. Only raw materials are in stock. Assume sales and purchases are in cash terms and the closing stock is expected to go up by the same amount as between year 1 and 2. You may assume that no dividend is being paid. The Company can use 75% of the cash generated to service a loan. COMPUTE how much cash from operations will be available in year 3 for the purpose? Ignore income tax.

Answer

Projected Profit and Loss Account for the year 3

	Year 2 Actual (₹ in lakhs)	Year 3 Projected (₹ in lakhs)		Year 2 Actual (₹ in lakhs)	Year 3 Projected (₹ in lakhs)
To Materials consumed	350	420	By Sales	1,000	1,200
To Stores	120	144	By Misc. Income	10	10
To Mfg. Expenses	160	192			
To Other expenses	100	150			
To Depreciation	100	100			
To Net profit	180	204			
	1,010	1,210		1,010	1,210

Cash Flow:

	(₹ in lakhs)
Profit	204
Add: Depreciation	<u>100</u>
	304
Less: Cash required for increase in stock	50
Net cash inflow	<u>254</u>

Available for servicing the loan: 75% of ₹ 2,54,00,000 or ₹ 1,90,50,000

Working Notes:

- (i) Material consumed in year 2: 35% of sales.
Likely consumption in Year 3 = 1,200 * 35% = 420 lakh
- (ii) Stores are 12% of sales, as in year 2.
- (iii) Manufacturing expenses are 16% of sales.

Note: The above also shows how a projected profit and loss account is prepared.

Working Capital Management

Question No. 18

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 (360 days = year)

Answer

New level of sales will be $15,00,000 \times 1.15 = ₹ 17,25,000$

Variable costs are $80\% \times 75\% = 60\%$ of sales Contribution from sales is therefore 40% of sales; Fixed Cost are $20\% \times 75\% = 15\%$ of sales

Particulars	₹	₹
Proposed investment in debtors = Variable Cost + Fixed Cost* = $(17,25,000 \times 60\%) + (15,00,000 \times 15\%)$ $= (10,35,000 + 2,25,000) \times \frac{60}{360}$		2,10,000
Current investment in debtors = $[(15,00,000 \times 60\%) + (15,00,000 \times 15\%)] \times \frac{30}{360}$		<u>93,750</u>
Increase in investment in debtors		<u>1,16,250</u>
Increase in contribution = $15\% \times 15,00,000 \times 40\%$		90,000
New level of bad debts = $(17,25,000 \times 4\%)$	69,000	
Current level of bad debts $(15,00,000 \times 1\%)$	15,000	
Increase in bad debts		(54,000)
Additional financing costs = $1,16,250 \times 12\% =$		(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.

- 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

Working Capital Management

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.

Answer

- (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. The interest cost on bank loan for 10 days would be ₹0.33 ($100 \times 12\% \times 10/365$ days). The net benefit of ₹1.67 ($2 - 0.33$).

- (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.

The maximum possible repayment period would be lower of two:

- (i) 30 days as allowed by supplier
 - (ii) $(\text{No. of days} / 365) * 100 * 12\% = 1.67$ OR no. of days = 51 days
- Therefore, payment should be made in 30 days to reduce the interest cost.