

1 – Krish Ltd

W.N: 1 Capital Structure & EBIT of the Company.

Existing Capital Structure:

	Rs.
- 8% Debentures (80,000/8%)	1,000,000
- 11% Long term loans (220,000/11%)	2,000,000
- Equity Share Capital (500,000 x 10)	5,000,000
- Reserves & Surplus	2,000,000
∴ Total Capital employed	<u>10,000,000</u>
EBIT on above (given)	2,300,000
Rate of Return	23%
Total New Capital employed (100 – 10 + 30)	12,000,000
Rate of Return (23 + 2)	25%
∴ EBIT (on New Capital)	3,000,000

Statement Showing Computation of MPS

Rs.

Particulars	Plan 1	Plan 2
a. EBIT	3,000,000	3,000,000
b. Less: Interest		
- Existing	220,000	220,000
- Additional (@ 12%)	360,000	120,000
c. EBT	2,420,000	2,660,000
d. Less: Tax @ 50%	1,210,000	1,330,000
e. EAT	1,210,000	1,330,000
f. Less: Preference Dividend	Nil	Nil
g. ∴ Earnings Available to ES	1,210,000	1,330,000

Particulars	Plan 1	Plan 2
h. Total Number of Equity Shares		
- Existing	500,000	500,000
- Additional	--	100,000
Total	500,000	600,000
i. ∴ EPS	2.42	2.217
j. PE ratio	8	10
k. ∴ MPS (EPS x PE ratio)	19.36	22.17

- i. The Company may select plan 2 because, its MPS is greater and leads to wealth maximization of the Organisation
- ii. If the PE ratio would remain the same, its better to go for the Plan 1 rather than Plan 2, because its EPS is greater.

2 – A Ltd

Statement Showing Computation of EPS

(Rs. 000)

Particulars	Debn	Pref	Equity
a. EBDIT (1510 +280)	1,790	1,790	1,790
b. Less: Depreciation (260 + 50)	310	310	310
c. EBIT	1,480	1,480	1,480
d. Less: Interest			
- Existing	50	50	50
- Additional (@ 5%)	90	--	--
e. EBT	1,340	1,430	1,430
f. Less: Tax @ 50%	670	715	715

Particulars	Debn	Pref	Equity
g. EAT	670	715	715
h. Less: Preference Dividend	--	99	--
i. ∴ Earnings Available to ES	670	616	715
j. Total Number of Equity Shares			
- Existing	25	25	25
- Additional	--	--	60
∴ Total	25	25	85
k. ∴ EPS	26.80	24.64	8.41

Statement of Additional Cash Outlay during Next Year (Rs. 000)

Particulars	Debn	Pref	Equity
a. Interest p.a. (1,800,000 x 5%)	90	--	--
b. Transfer to Sinking Investment (1,800,000/20 years)	90	--	--
c. Preference Dividend p.a. @ 5.5%	--	99	--
d. Equity Dividend p.a. - Rate in PY ($125/500 = 25\%$) - CY ($60 \times \text{Rs. } 20 \times 25\% = 300$)	--	--	300
Total	180	99	300

3 - EXE Ltd

Statement Showing Computation of EPS

Rs.

Particulars	A	B	C
a. EBIT	80,000	80,000	80,000
b. Less: Interest(@8%)	-	8,000	-
c. EBT	80,000	72,000	80,000
d. Less: Tax @ 50%	40,000	36,000	40,000
e. EAT	40,000	36,000	40,000
f. Less: Pref. Dividend	-	-	8,000
g. Earnings Ava to ESH	40,000	36,000	32,000
h. No of Equity Shares	10,000	5,000	5,000
i. ∴ EPS	4.0	7.2	6.4

Computation of Indifference Point

a. Plan A & Plan B

$$\{(X - I_1) (1 - t) - P_1\} / N_1 = \{(X - I_2) (1 - t) - P_2\} / N_2$$

$$\frac{(X - 0) (1 - 0.5) - 0}{10,000} = \frac{(X - 8,000) (1 - 0.5) - 0}{5,000}$$

$$X (0.50) = \{(X - 8,000) 0.50\} \times 10,000 / 5,000$$

$$0.50 X = (0.50 X - 4,000) \times 2$$

$$0.50 X = 1.0 X - 8,000$$

$$1.0 X - 0.50 X = 8,000$$

$$\therefore X = \text{Rs. } 16,000$$

Range of EBIT**Plan**

at Rs. 16,000

Indifferent between Plan A & B

Above Rs. 16,000

Plan B

Below Rs. 16,000

Plan A

Note: If EBIT is more, Opt for Debt

If EBIT is less, Opt for Equity

b. Plan B & Plan C

$$\frac{\{(X - I_1) (1 - t) - P_1\} / N_1}{5,000} = \frac{\{(X - I_2) (1 - t) - P_2\} / N_2}{5,000}$$

$$\frac{(X - 8,000) (1 - 0.5) - 0}{5,000} = \frac{(X - 0) (1 - 0.5) - 8,000}{5,000}$$

There is no I/D/P for Plans B & C.

Hence, at any level of EBIT, their EPS will differ.

c. Plan A & Plan C

$$\frac{(X - 0) (1 - 0.5) - 0}{10,000} = \frac{(X - 0) (1 - 0.5) - 8,000}{5,000}$$

$$\therefore X = \text{Rs. } 32,000$$

b. Financial Break Even Point (F/B/P):

$$F/B/P = \text{Int} + PD / (1 - t)$$

Plan A:

$$F/B/P = 0 + (0 / 0.5) = \text{Rs. } 0$$

Plan B:

$$F/B/P = 8,000 + (0 / 0.5) = \text{Rs. } 8,000$$

Plan C:

$$F/B/P = 0 + (8,000 / 0.5) = \text{Rs. } 16,000$$

4 – Electronics Company*****

W.N: 1 Calculation of Cost of Debt (Kd)

$$\begin{aligned}K_d &= \{Int (1 - t) + (f + d + Pr - Pi) / N\} / (Sv + Rv) / 2 \\&= \{13 (1 - 0.5) + (5) / 10\} / (100 + 95) / 2 \\&= (6.5 + 0.5) / 97.5 \\&= 0.07179\end{aligned}$$

W.N: 2 Calculation of Cost of Preference Shares

$$\begin{aligned}K_p &= \{(Dp + (f + d + Pr - Pi) / N\} / (Sv + Rv) / 2 \\&= (14 + (5) / 10) / (100 + 95) / 2 \\&= (14 + 0.5) / 97.5 \\&= 0.1487\end{aligned}$$

W.N: 3 Calculation of Cost of Equity (Ke)

$$K_e = \{DPS_1 / (MP_0 - \text{flotation costs})\} + G$$

$$= \{2 / (22 - 2)\} + 0.07$$

$$= 0.17$$

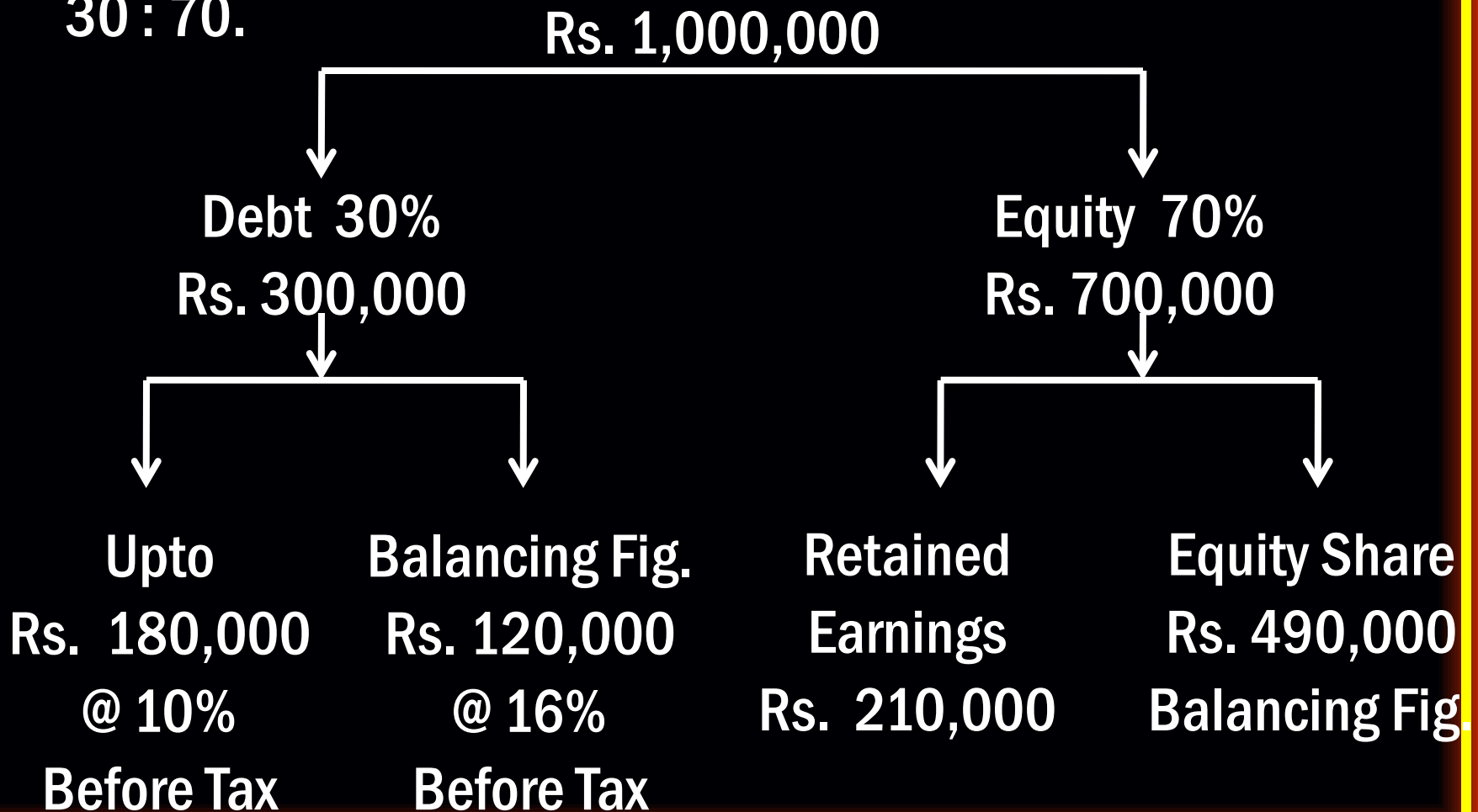
Statement Showing Computation of WACC

Source	Cost (K)	Amt. (Rs.000)		Weights		WACC	
		BV	MV	BV	MV	BV	MV
Debt	0.0718	800	880	0.40	0.265	0.02872	0.01902
PSC	0.1487	200	240	0.10	0.072	0.01487	0.01071
ESC	0.1700	1,000	2,200	0.50	0.663	0.08500	0.11271
		2,000	3,320			0.12857	0.14244

5 – Arise Ltd

a. Pattern of raising Additional Finance:

Assuming that the present Debt - Equity ratio is appropriate, the additional finance is also raised in the same ratio of 30 : 70.



b. Weighted Average Cost of Additional Debt:

Amount	Weight	K (After Tax)	Kd
180,000	0.6	0.05	0.030
120,000	0.4	0.08	0.032
300,000	1.0		0.062

c. Cost of Equity & Retained Earnings

$$DPS_0 = 50\% \text{ of Rs. } 4 = 2$$

$$\therefore DPS_1 = DPS_0 (1 + G) = 2 \times (1 + 0.10) = 2.20$$

$$\therefore K_e = (DPS_1 / M_0) + G = (2.2 / 44) + 0.10 = 15\%$$

Since, there is no floatation cost in raising additional equity share capital,

$$\text{Cost of Retained Earnings} = \text{Cost of Equity} = 15\%$$

d. Statement showing Computation of K_0 for additional finance

Source	Amount	Weight	K	K_0
Debt	300,000	0.3	0.062	0.0186
Equity	700,000	0.7	0.150	0.1050
	1,000,000	1.0		0.1236

$\therefore$ Overall Cost of Capital = 12.36%

6– Well Established Co

Statement Showing Computation of EPS

Particulars	Rs.
a. Sales (200,000 x 3)	600,000
b. Less: Variable Cost (@ 40% on Sales)	240,000
c. ∴ Contribution	360,000
d. Less: Fixed Op Cost	100,000
e. ∴ EBIT	260,000

Particulars	Rs.
f. Less: Interest (@ 10% on Rs. 80,000)	8,000
g. ∴ EBT	252,000
h. Less: Tax @ 50%	126,000
i. ∴ EAIT	126,000
j. No. of Shares (60,000 / 10)	6,000
k. ∴ EPS	21

- a. Operational Leverage = C / EBIT
= $360,000 / 260,000$
= 1.385 times
- b. Financial Leverage = EBIT / EBT
= $260,000 / 252,000$
= 1.032 times
- c. Combined Leverage = C / EBT
= $360,000 / 252,000$
= 1.429 times

Part (ii): Determination of Appropriate EBIT for given EPS

		Rs.		
Particulars		a	b	c
a.	EBIT (b + c)	20,000	44,000	8,000
b.	Less: Interest	8,000	8,000	8,000
c.	EBT (d + e)	12,000	36,000	Nil
d.	Less: Tax @ 50%	6,000	18,000	Nil
e.	EAIT (6,000 x EPS)	6,000	18,000	Nil
f.	EPS	1.00	3.00	0.00

Working Notes: 1. Computation of EBIT

$$\text{Financial Leverage} = \text{EBIT} / \text{EBT}$$

$$\text{Since, EBT} = \text{EBIT} - \text{Interest}$$

$$\therefore \text{FL} = \text{EBIT} / (\text{EBIT} - \text{Int})$$

For X Co,

$$\text{EBIT} / (\text{EBIT} - 20,000) = 2 / 1$$

$$\text{EBIT} = 2 \text{ EBIT} - 40,000$$

$$\therefore \text{EBIT} = 40,000$$

For Y Co,

$$\text{EBIT} / (\text{EBIT} - 6,000) = 3 / 1$$

$$\text{EBIT} = 3 \text{ EBIT} - 18,000$$

$$\therefore \text{EBIT} = 9,000$$

2. Computation of Contribution

$$\text{Operating Leverage} = \text{Contribution} / \text{EBIT}$$

For X Co,

$$C / \text{EBIT} = 3 / 1$$

$$C = 3 \times 40,000$$

$$\therefore \text{Contribution} = 120,000$$

For Y Co,

$$C / \text{EBIT} = 5 / 1$$

$$C = 5 \times 9,000$$

$$\therefore \text{Contribution} = 45,000$$

3. Computation of Sales ($S - V = C$)

For X Co,

Variable Cost	= 50% of Sales
∴ Contribution	= 50% of Sales
i.e. 120,000	= 50% of Sales
∴ Sales	= 240,000

For Y Co,

Variable Cost	= 60% of Sales
∴ Contribution	= 40% of Sales
i.e. 45,000	= 40% of Sales
∴ Sales	= 112,500

Income Statement

Particulars	X Co.	Y Co.
a. Sales	240,000	112,500
b. Less: Variable Cost	120,000	67,500
c. Contribution	120,000	45,000
d. Less: Fixed Op. Exp (bal.fig)	80,000	36,000
e. EBIT	40,000	9,000
f. Less: Interest	20,000	6,000
g. EBT	20,000	3,000
h. Less: Tax @ 55%	11,000	1,650
i. ∴ EAIT	9,000	1,350

Statement showing Computation of Ke & V

Particulars	0%	20%	50%	80%
EBIT	30,000	30,000	30,000	30,000
Less: Interest	Nil	4,000	10,000	16,000
EBT	30,000	26,000	20,000	14,000
Less: Tax	Nil	Nil	Nil	Nil
EAESH	30,000	26,000	20,000	14,000

Particulars	0%	20%	50%	80%
Value of Firm	250,000	250,000	250,000	250,000
Value of Debt	Nil	40,000	100,000	160,000
Value of Equity	250,000	210,000	150,000	90,000
Cost of Equity	12%	12.38%	13.33%	15.56%

Step 1: Since, the value of the Firm U (Rs. 100,000) is higher than the value of the Firm L (Rs. 90,000), there exists Secondary Arbitrage

Step 2: Computation of Present Earnings in Firm U:	Rs.
EBIT	10,000
Less: Interest	Nil
EBT	10,000
Less: Tax	Nil
∴ EAIT or EAESH	10,000
Investor's share of earnings (@10%)	1,000

Step 3: Investment in Levered Company**Rs.**

Total Value of Unlevered Company	100,000
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Investor's Share (@10%)	10,000
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- Rs. 10,000 should be invested in both debt & equity of Levered Company in the debt equity ratio of 5 : 4.

∴ Investment in Debt $\{(5/9) \times 10,000\}$	Rs. 5,556
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Investment in Equity $\{(4/9) \times 10,000\}$	Rs. 4,444
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Step 4: Computation of Additional Earnings**Rs.**

EBIT of Firm L	10,000
Less: Interest @ 6%	3,000
EBT	7,000
Less: Tax (assumption)	Nil
∴ EAIT / EAESH	7,000

Earnings in Firm L for the Investor

Rs.

Equity $\{(4,444 / 40,000) \times 7,000\}$	777.76
Debt (@ 6% of 5,556)	333.34
$\therefore$ Total Earnings from Firm L	1,111.10
Less: Present Earnings in Firm U	1,000.00
$\therefore$ Additional Earnings	111.10

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Computation of NPV & IRR

(Rs.000)

Year	PVF@ 10%	Project X		Project Y	
		CFATs	PVCFATs	CFATs	PVCFATs
1	0.909	35	31.815	218	198.162
2	0.826	80	66.080	10	8.260
3	0.751	90	67.590	10	7.510
4	0.683	75	51.225	4	2.732
5	0.621	20	12.420	3	1.863
Total PVCFATs			229.130		218.527
Total PVCO			200.000		200.000
∴ NPV			29.130		18.527

Computation of NPV & IRR

(Rs.000)

Year	PVF@ 20%	Project X		Project Y	
		CFATs	PVCFATs	CFATs	PVCFATs
1	0.833	35	29.155	218	181.594
2	0.694	80	55.520	10	6.940
3	0.576	90	51.840	10	5.760
4	0.482	75	36.150	4	1.928
5	0.402	20	8.040	3	1.206
Total PVCFATs			180.705		197.420
Total PVCO			200.000		200.000
∴ NPV			19.295		2.572

Calculation of IRR for Projects X & Y:

For Project X:

$$\begin{aligned}\therefore \text{IRR} &= L1 + \{ (\text{NPV at } L1 / \text{NPV at } L1 - \text{NPV at } L2) \} \times (L2 - L1) \\ &= 10\% + \{ 29.1300 / 29.130 - (19.295) \} (20 - 10) \\ &= 10\% + 6.02\% \\ &= 16.02\%\end{aligned}$$

For Project Y:

$$\begin{aligned}\therefore \text{IRR} &= L1 + \{ (\text{NPV at } L1 / \text{NPV at } L1 - \text{NPV at } L2) \} \times (L2 - L1) \\ &= 10\% + \{ 18.527 / 18.527 - (2.572) \} (20 - 10) \\ &= 10\% + 8.78\% \\ &= 18.78\%\end{aligned}$$

b. Recommendation :

- ✓ Based on NPV, Project X should be recommended, since @10% discount factor, Project X gives a higher NPV than Project Y.
- ✓ Based on IRR, Project Y will be recommended, since it gives higher IRR than Project X.

Final Recommendation:

- ✓ Since both the above methods are giving contradictory results, Project X should be preferred by adopting NPV method of evaluation.
- ✓ This is because, the NPV method is more realistic than the IRR method as the discount rate taken is the “Cut off Rate” which is more realistic than the IRR - which is an internal rate
- ✓ Thus, under NPV method, the wealth of the shareholders can be explained in real terms.

c. Explanation for the inconsistency in ranking:

The inconsistency in ranking between the two projects may arise, due to any of the following 3 reasons:

- i. Difference in Cash Outflows ;
- ii. Difference in the Life of the Projects ;
- iii. Difference in the pattern of the Cash Inflows.

- ✓ In this problem, the inconsistency has arisen due to difference in the pattern of cash inflows.
- ✓ For Project X, major cash inflows occur in the middle years, whereas for Project Y, cash inflows are heavy in the first year itself.

W.N: 1 Calculation of Cost of Project (i.e. PV C/O)

Given,

IRR = 15%

At 15% discount factor,

NPV = 0

∴ @ 15% discount factor, Total PVCFAT = Total PVC/O

Given that Annual Cost Savings = Rs. 40,000 p.a.

Total PVCFAT = Annual CFAT x Annuity Factor @ 15% for 4 years

= 40,000 x 2.855

= Rs. 114,200

∴ PVC/O (Cost of the Project) = Rs. 114,200

W.N: 2 Calculation of Payback Period (CFATs Constant)

$$\text{PBP} = \text{Investment} / \text{Annual CFAT}$$

$$= 114,200 / 40,000$$

$$= 2 \text{ Yrs, } 10 \text{ m \& } 8 \text{ days}$$

W.N: 3 Calculation of Cost of Capital

$$\text{Given,} \quad \text{PI} = 1.064$$

$$\text{Total PVCFAT} / \text{Total PVC/O} = 1.064$$

$$\therefore \text{Total PVCFAT} = 1.064 \times 114,200 = \text{Rs. } 121,509$$

When CFATs are Constant every year,

$$\text{Total PVCFAT} = \text{Annual CFATs} \times \text{Annuity Factor}$$

$$121,509 = 40,000 \times \text{Annuity Factor}$$

$$\therefore \text{Annuity Factor} = 3.038$$

Since, the Annuity Factor of 3.038 tallies with Annuity Factor @ 12%, for 4 years the Cost of Capital is 12%

W.N: 4 Computation of NPV @ 12% discount factor**Rs.**

Total PVCFAT @12% discount factor	121,509
Less: Total PVC/O	114,200
∴ NPV	7,309

Swastik Ltd.**Evaluation of Project under NPV Method**

Step 1: Calculation of PV of Cash Outflows @ $t = 0$		Rs.
a.	Cost of Land (already owned by the Company)	Nil
b.	Cost of Construction of new centre (Including Furnishing)	<u>1,500,000</u>
c.	∴ PV of Cash Outflows	1,500,000

Step 2: Calculation of PV CFATs (i.e. Net Savings)

(Rs.'000)

Particulars	1	2	3	4	5
a. Annual Savings in Cost:					
i. Savings in Boarding Chgs	50	50	50	50	50
ii. Savings in Hotel Rent	200	200	200	200	200
iii. Savings in Hotel Accom.	800	1,000	1,200	1,400	1,600
∴ Total Savings	1,050	1,250	1,450	1,650	1,850

Particulars	1	2	3	4	5
b. Less: Additional Costs	150	150	150	150	150
c. ∴ CFBT	900	1100	1300	1500	1700
d. Less: Depreciation	300	300	300	300	300
e. ∴ EBIT	600	800	1000	1200	1400
f. Less: Tax @ 35%	210	280	350	420	490

Particulars	1	2	3	4	5
g. ∴ EAIT	390	520	650	780	910
h. Add: Depreciation	300	300	300	300	300
i. ∴ CFAT	690	820	950	1080	1210
j. PV Factor @ 15%	0.87	0.76	0.66	0.57	0.50
k. ∴ PVCFAT	600.3	623.2	627	615.6	605
∴ Total PVCFAT	RS. 3,071,100				

Step 3: Computation of NPV**Rs.**

a. PV of CFATs	3,071,100
b. PV of Outflows	<u>1,500,000</u>
c. ∴ NPV of the Project	1,571,100

Recommendation: Since the NPV is positive, Swastik Ltd. should construct the Consultancy centre.

Option A: Zee Machinery**Step 1: Calculation of PV of Cash Outflows at $t = 0$**

Particulars	Rs.
Original Outlay	500,000
Additional utilities	100,000
Total	600,000
Less: Salvage value of old machine	100,000
∴ PV of Net cash outflows	500,000

Step 2: Computation of PV of Operational Flows at t= 1 to 5 **Rs.**

Year	Flow	PV factor	Net Flow
1	100,000	0.87	87,000
2	150,000	0.76	114,000
3	180,000	0.66	118,800
4	200,000	0.57	114,000
5	170,000	0.50	85,000
∴ Total PV CFATs			518,800

Step 3: Computation of PV of Terminal flows at $t = 5$

Particulars	Rs.
a. Salvage value	50,000
b. PV factor @15% at the end of Year 5	0.50
c. $\therefore$ PV of Terminal Cash Inflows	25,000

Step 4: Computation of NPV

Particulars	Rs.
1. PV of Operational Inflows	518,800
2. PV of Terminal Inflows	25,000
3. ∴ Total PV of Inflows	543,800
4. Less: PV of Incremental Outflows	500,000
5. ∴ NPV	43,800

Option B: Chee Machinery**Step 1: Calculation of PV of Cash Outflows at $t = 0$**

Particulars	Rs.
Original Outlay	500,000
Additional utilities	200,000
Total	700,000
Less: Salvage value of old machine	100,000
Salvage value of old utilities	20,000
∴ PV of Net cash outflows	580,000

Step 2: Computation of PV of Operational Flows at t= 1 to 5 **Rs.**

Year	Flow	PV factor	Net Flow
1	200,000	0.87	174,000
2	210,000	0.76	159,600
3	180,000	0.66	118,800
4	170,000	0.57	96,900
5	40,000	0.50	20,000
∴ Total PV CFATs			569,300

Step 3: Computation of PV of Terminal flows at $t = 5$

Particulars	Rs.
a. Salvage value	60,000
b. PV factor @15% at the end of Year 5	0.50
c. $\therefore$ PV of Terminal Cash Inflows	30,000

Step 4: Computation of NPV

Particulars	Rs.
1. PV of Operational Inflows	569,300
2. PV of Terminal Inflows	30,000
3. ∴ Total PV of Inflows	599,300
4. Less: PV of Outflows	580,000
5. ∴ NPV	19,300

Conclusion: On the basis of NPV, since Machine Zee has higher NPV, it is selected.

Discounted Payback Period: Machine Zee:

(i)	Total Outlay	Rs. 500,000
(ii)	Inflows:	Rs.

Year	Cash Flow	DCF	Cumm. DCF
1	100,000	87,000	87,000
2	150,000	114,000	201,000
3	180,000	118,800	319,800
4	200,000	114,000	433,800
5	220,000	110,000	543,800

$$\begin{aligned}
 \therefore \text{PBP} &= 4 \text{ Years} + \frac{(500,000 - 433,800)}{110,000} \times 12 \\
 &= 4 \text{ Years, 7 Months \& 7 days.}
 \end{aligned}$$

Discounted Payback Period: Machine Chee:

(i)	Total Outlay	Rs. 580,000
(ii)	Inflows:	Rs.

Year	Cash Flow	DCF	Cumm. DCF
1	200,000	174,000	174,000
2	210,000	159,600	333,600
3	180,000	118,800	452,400
4	170,000	96,900	549,300
5	100,000	50,000	599,300

$$\begin{aligned}
 \therefore \text{PBP} &= 4 \text{ Years} + \frac{(580,000 - 549,300)}{50,000} \times 12 \\
 &= 4 \text{ Years, 7 Months \& 11 days}
 \end{aligned}$$

Profitability Index:

$$\text{PI} = \text{Net Inflow} / \text{Net Outflow}$$

$$\text{Machine Zee} = 543,800 / 500,000$$

$$= 1.088$$

$$\text{Machine Chee} = 599,300 / 580,000$$

$$= 1.034$$

- When projects are indivisible, the best possible combination has to be selected so as to ensure that idle funds are minimised.

Available Funds Rs. 3 lakhs

Statement Showing the Combination of Projects **Rs.**

Combination	Projects	PVO	NPV
1	B	<u>300,000</u>	<u>35,000</u>
		<u>300,000</u>	<u>35,000</u>
2	A	100,000	20,000
	D	<u>200,000</u>	<u>25,000</u>
		<u>300,000</u>	<u>45,000</u>

Combination	Projects	PVO	NPV
3	D	200,000	25,000
	E	<u>100,000</u>	<u>30,000</u>
		<u>300,000</u>	<u>55,000</u>
4	A	100,000	20,000
	C	50,000	16,000
	E	<u>100,000</u>	<u>30,000</u>
		250,000	66,000

Combination	Projects	PVO	NPV
5	C	50,000	16,000
	D	<u>200,000</u>	<u>25,000</u>
		<u>250,000</u>	<u>41,000</u>

- Among the Combinations available above, Combination 4 is advisable as it results in highest NPV of Rs. 66,000.
- Such a combination results in an idle fund of Rs. 50,000.
- It is assumed that such funds are invested at the cost of capital & thereby achieving a Zero NPV on such idle funds.

Statement showing Ranking of Projects

(Rs. 000)

Project	PV of Cash Flows				PVO	PVI	NPV	PI	Rank
Year	2001	2002	2003	2004					
PV Fac.	1.00	0.89	0.80	0.71					
A	70	31.15	28	14.20	70.0	73.35	3.35	1.05	4
B	40	26.7	36	39.05	66.7	75.05	8.35	1.13	2
C	50	53.4	56	56.80	103.4	112.80	9.40	1.09	3
D	-	80.1	44	46.15	80.1	90.15	10.05	1.13	-
E	60	17.8	32	35.50	60.0	85.30	25.30	1.42	1

Note: Since Project D needs investment in 2002, it doesn't require capital rationing decision.

Selection of the Projects: Since, Project D requires investment in 2nd year, when there is no scarcity of funds, the same need not be considered for rationing the limited capital.

- ✓ Since NPV of Project D is positive, its advisable to undertake the project in the 2nd year.
- ✓ Whereas, All other projects require investment in 2001 when capital is limited.

- ✓ Therefore, rationing is done among them & feasible investment is done in the following manner:

Available Funds Rs. 1.10 lakhs

Project	PVO	NPV (Rs. 000)
E	60	25.30
B	40	8.35
C (20%)	10 (bal fig)	1.88
Total	110	35.53

Computation of Expected NPV & Risk Project X

Rs.

NPV Estm.	Prob.	Expected NPV	$(x - \underline{X})$	$(x - \underline{X})^2$	$P(x - \underline{X})^2$
3,000	0.1	300	6,000	36,000,000	3,600,000
6,000	0.4	2,400	3,000	9,000,000	3,600,000
12,000	0.4	4,800	3,000	9,000,000	3,600,000
15,000	0.1	1,500	6,000	36,000,000	3,600,000
$(\underline{X})$		9,000			14,400,000

∴ Standard Deviation for Project X σ $= \sqrt{14,400,000}$
 σ $= \text{Rs. } 3,795$

Computation of Expected NPV & Risk Project Y

Rs.

NPV Estm.	Prob.	Expected NPV	$(x - \underline{X})$	$(x - \underline{X})^2$	$P(x - \underline{X})^2$
3,000	0.2	600	6,000	36,000,000	7,200,000
6,000	0.3	1,800	3,000	9,000,000	2,700,000
12,000	0.3	3,600	3,000	9,000,000	2,700,000
15,000	0.2	3,000	6,000	36,000,000	7,200,000
		$(\underline{X})$ 9,000	19,800,000		

∴ Standard Deviation for Project Y σ $= \sqrt{19,800,000}$
 σ $= \text{Rs. } 4,450$

Particulars	Expected NPV	Risk
Project X	9,000	3,795
Project Y	9,000	4,450

- o With the same expected NPV of Rs. 9,000, Project Y deviates by Rs. 4,450 & hence, considered to be more risky when compared to Project X

Computation of Profitability Index

Rs.

Particulars

Project X

Project Y

PV0

30,000

36,000

Add: Expected NPV

9,000

9,000

∴ PVI

39,000

45,000

∴ PI

1.30

1.25

Statement Showing Computation of Expected Cash Flows **Rs.**

Cash Outflows			Cash Inflows					
Year 0			Year 1 – 5			Year 6 – 10		
Estd.	Prob.	Exp.	Estd.	Prob.	Exp.	Estd.	Prob.	Exp.
O/F		O/F	I/F		I/F	I/F		I/F
13,000	0.3	3,900	2,000	0.2	400	2,600	0.2	520
14,000	0.4	5,600	2,400	0.4	960	3,200	0.6	1,920
15,000	0.3	4,500	2,800	0.3	840	3,400	0.1	340
			3,400	0.1	340	3,600	0.1	360
14,000			2,540			3,140		

Statement Showing Risk Adjusted NPV

Rs.

Year	Expected Cash Inflows	PVAF @ 14% (11% + 3%)	PV of Expected Cash Inflows
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1 - 5	2,540	3.433	8,720
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6 - 10	3,140	1.783	5,599
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∴ Total PVI	14,319
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Less: PVO	14,000
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∴ Risk Adjusted NPV	319
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18 – X Public Ltd ***

**Notes: 1. Since, Opening & Closing Stocks of Raw Materials are not given, they are assumed to be same. Hence,
Consumption = Purchases**

2. Since, break up of FOH & AOH are not clearly given, it is assumed that Gross Works Cost = Cost of Goods Sold

3. As per AS – 2, AOH are not taken into consideration for ascertaining Cost of Production. Hence Net Works Cost = Cost of Goods Sold

4. Since, Credit Sales & Credit Purchases are not given, we assume them on credit basis only.

Statement showing Computation of Operating Cycle - Days

Particulars	X PLC	Industry
1. Raw Material Conversion Period (Avg Stock of RM/ Consumption per day) $(80 / 600) \times 360$	48	20
2. WIP Conversion Period (Avg Stock of WIP/ Gross FC per day) $(85 / 2,100) \times 360$	15	15

Particulars	X PLC	Industry
3. Finished Goods Conversion Period (Avg Stk of FGs / Net Factory Cost per day) $(180 / 2,100) \times 360$	31	40
4. Debtors Collection Period (Avg Drs / Cr Sales per day) $(350 / 3,000) \times 360$	42	60
∴ Gross Operating Cycle	136	135

Particulars	X PLC	Industry
5. Creditors Payment Period (Avg Creditors / Cr Purchases per day) $(90 / 600) \times 360$	54	40
∴ Net Operating Cycle	82	95

Comments: Overall the Working Capital cycle is below the industry average, indicating a lower investment in current assets. However, the following points should be noted about the individual elements of working capital:

1. The stock of raw material is considerably higher than the average. The stock control procedures should be reviewed since, these could possibly be reduced.
2. The value of creditors is also above average. This indicates that X Ltd., is delaying the payment of creditors beyond the credit period. Although this is an additional source of finance, it may result in a higher cost of raw materials.

3. The finished goods stock is below average. This may be due to high demand for the firm's goods or efficient stock control. A low finished goods stock can, however, reduce sales since it can cause delivery delays.
4. Debts are collected more quickly than average. The Company may employ good credit control procedures or may offer cash discount for early payment. This can, however, be done at the expense of profitability.

Working Note: 1 Computation of Purchases**Rs. Lakhs**

Opening Stock	96
Add: Purchases (Bal Fig)	726
Total	822
Less: Closing Stock	102
Cost of Goods Sold (90% of 800)	720

Statement showing Computation of Operating Cycle - 2001

Particulars	Days
1. Inventory Conversion Period (Avg Stock of Inventory / CoGS per day) $(99 / 720) \times 360$	49
2. Debtors Collection Period (Avg Drs / Cr Sales per day) $(88 / 800) \times 360$	40
∴ Gross Operating Cycle	89

Particulars**Days**

3. Creditors Payment Period

29

(Avg Creditors / Cr Purchases per day)

$(58 / 726) \times 360$

$\therefore$ Net Operating Cycle

60

20. Cash Cost Approach

Statement showing Estimation of WC Requirements (**CC Basis**)

Particulars	Rs.
A. Current Asset	
1. Investment in Raw Material	208,333
(RM Cosmp p.a. x RM Holding Period / 12)	
(50,000 x 50 x 1 / 12)	
2. Investment in Work-in-Progress	
(Gross WC p.a. x WIP Holding Period / 12)	
- Raw Material (50,000 x 50 x 100 % x 0.5 / 12)	104,167

Particulars	Rs.
- Wages $(50,000 \times 20 \times 50\% \times 0.5 / 12)$	20,833
- OHs $(50,000 \times (40 - 10) \times 50\% \times 0.5 / 12)$ (OH pu - Depn)	31,250
3. Investment in Finished Goods	416,667
(Factory Cost of Prod x FG Holding Period / 12)	
{50,000 x (110 - 10) x 1 / 12} (CoP - Depn)	

Particulars	Rs.
4. Investment in Debtors	312,500
(Cr Sales p.a. x Avg Cr Period / 12)	
{50,000 x (130 – 20 -10) x 75% x 1 / 12}	
(SP – Profit - Depn)	
5. Desired Cash balance	100,000
∴ Gross Working Capital	1,193,750

Particulars	Amount
B. Current Liabilities	
1. Creditors for purchase of RM $(\text{Purchase of RM p.a.} \times \text{Avg Cr Period} / 12)$ $(50,000 \times 50 \times 1 / 12)$	208,333
2. Creditors for Wages $(\text{Total Wages p.a.} \times \text{Time lag in pmt of wages} / 12)$ $(50,000 \times 20 \times 10 / 365)$	27,397

Particulars	Amount
3. Creditors for Overheads	123,288
(Total OHs p.a. x Time lag in pmt of OHs/ 12)	
{50,000 x (40 – 10) x 30 / 365}	
(OH pu - Depn)	
∴ Total Current Liabilities	359,018
C. ∴ Net Working Capital required	834,732

Statement showing Estimation of Working Capital Requirement

Particulars	Rs.
A. Current Assets	
Investment in RM $(675,000 \times 1 / 12)$	56,250
Investment in FGs $(1,935,000 \times 1 / 12)$ (RM + L + OHs cash)	161,250
Investment in Drs $(2,205,000 \times 2 / 12)$ (RM + L + OHs cash + AO _h + SOH)	367,500
Prepaid S & D Exp $(90,000 \times 1 / 4)$	22,500
Desired Cash balance (15% of Liabilities)	34,875
∴ Gross Working Capital	642,375

Particulars	Rs.
B. Current Liabilities	
Creditors for R / M $(675,000 \times 2 / 12)$	112,500
Creditors for Wages $(540,000 \times 1 / 12)$	45,000
Creditors for Manf. Exp (1 month)	60,000
Creditors for Admn. Exp (1 month)	15,000
∴ Total Current Liabilities	232,500
C. ∴ Net Working Capital	409,875
D. Add: 15% for Contingencies	61,481
E. ∴ Estimated Working Capital Requirement	471,356

22 – Always Best Ltd

Working Notes

- a. Finished Goods Valuation = 10% of Cost of Production
- $$= \text{RM} + \text{Wages \& Exp} + \text{Depn}$$
- $$= 16,800 + 12,500 + 4,700$$
- $$= \text{Rs. } 34,000$$
- b. WIP Valuation = 15% of Cost of Production
- $$= 25,200 + 7,500 + 2,820$$
- $$= \text{Rs. } 35,520$$

c. Raw Material = 2 months consumption for Product & WIP

$$= (168,000 + 25,200) \times 2/12$$

$$= \text{Rs. } 32,200$$

d. Sundry Creditors = Purchases $\times (1.5/12)$

$$= (\text{Consumption} + \text{Cl St}) \times 1.5 / 12$$

$$= (168,000 + 25,200 + 32,200) \times 1.5/12$$

$$= \text{Rs. } 28,175$$

e. Expenses paid in advance

Wages $\{(125,000 + 7,500) \times 1 / 12\} = \text{Rs. } 11,042$

Admn Exp $(28,000 \times 1/12) = \text{Rs. } 2,333$

Selling Exp $(26,000 \times 1 / 12) = \text{Rs. } 2,167$

Total $= \text{Rs. } 15,542$

f. Debtors $(420,000 \times 80\% \times 2/12) = \text{Rs. } 56,000$

Depn in this $(47,000 \times 90\% \times 80\% \times 2/12) = \text{Rs. } 5,640$

Profit in this $(60,000 \times 80\% \times 2/12) = \text{Rs. } 8,000$

Total of Depreciation & Net Profit $= \text{Rs. } 13,640$

Note: 90% considered, since 10% of goods produced is in FGs

Statement of Working Capital Requirements

Rs.

Particulars	Total Approach	Less: Profit & Depreciation	Cash Cost Approach
A. Current Assets			
Raw Materials Stock	32,200	--	32,200
WIP Stock	35,520	2,820	32,700
Finished Goods Stock	34,000	4,700	29,300
Sundry Debtors	56,000	13,640	42,360
Prepaid Expenses	15,542	--	15,542

Particulars	Total Approach	Less: Profit & Depreciation	Cash Cost Approach
Cash in Hand	16,000	--	16,000
Total Current Assets	1,89,262	21,160	168,102
B. Current Liabilities			
Sundry Creditors	28,175	--	28,175
Tax (30% of Rs. 20,000)	6,000	--	6,000
Total Current Liabilities	34,175	--	34,175
C. Net Working Capital	1,55,087	21,160	133,927

23***** - A newly formed Co.

Statement showing Estimation of Working Capital Requirement

Particulars	Rs.
A. Current Assets	
1. Investment in RM $(108,000 \times 80 \times 4 / 52)$	664,615
2. Investment in WIP	
– RM $(4,000 \times 80)$	320,000
– W&OH $\{4,000 \times (60 + 30) / 2\}$	<u>180,000</u>
3. Investment in FGs $(8,000 \times 170)$	1,360,000
4. Investment in Drs $(96,000 \times 200 \times 8 / 52)$	2,953,846
5. Desired Cash balance	25,000
∴ Gross Working Capital	5,503,461

Particulars	Rs.
B. Current Liabilities	
1. Creditors for RM	
- RM Consumption (108,000 x 80)	8,640,000
- Add: Closing Stock (Inv in RM)	664,615
- Less: Opening Stock	Nil
∴ Purchase of RM	9,304,615
∴ Crs for RM (9,304,615 x 4 / 52)	715,740
2. Creditors for Wages	91,731
{(104,000 x 30) + (4,000 x 15) } x 1.5/52	
∴ Total Current Liabilities	807,471
C. ∴ Estimated Working Capital	4,695,990

a. First Method:

$$\begin{aligned}\text{MPBF} &= 75\% \text{ of } (\text{CA} - \text{CL}) \\ &= 75\% \text{ of } (5,503,461 - 807,471) \\ &= \text{Rs. } 3,521,993\end{aligned}$$

Current Ratio of Bank Finance = CA/ CL

$$\begin{aligned}\text{C/R} &= 5,503,461 / (807,471 + 3,521,993) \\ &= 1.27\end{aligned}$$

Since, the C/R of 1.27 is more than the minimum required C/R of 1.17, the Banker can fund the maximum amount of Rs. 3,521,993 .

The balance Working Capital of Rs. 1,173,997 (4,695,990 – 3,521,993) has to be funded by own funds.

b. Second Method:

$$\begin{aligned}\text{MPBF} &= (75\% \text{ of CA}) - \text{CL} \\ &= (75\% \text{ of } 5,503,461) - 807,471 \\ &= \text{Rs. } 3,320,125\end{aligned}$$

Current Ratio of Bank Finance = CA/ CL

$$\begin{aligned}\text{C/R} &= 5,503,461 / (807,471 + 3,320,125) \\ &= 1.33\end{aligned}$$

Since, the C/R of 1.33 is equal to the minimum required C/R of 1.33, the Banker can fund the maximum amount of Rs. 3,320,125 .

The balance Working Capital of Rs. 1,375,865 (4,695,990 – 3,320,125) has to be funded by own funds.

c. Third Method:

Assuming 10% of Current Assets are Core Assets

$$\begin{aligned}\text{MPBF} &= \{75\% \text{ of } (\text{CA} - \text{Core CA})\} - \text{CL} \\ &= \{75\% \text{ of } (5,503,461 - 550,346)\} - 807,471 \\ &= \text{Rs. } 2,907,335\end{aligned}$$

Current Ratio of Bank Finance = CA/ CL

$$\begin{aligned}\text{C/R} &= 5,503,461 / (807,471 + 2,907,335) \\ &= 1.48\end{aligned}$$

Since, the minimum C/R of 1.50 is not met, the Bank finance has to be reduced proportionately so as to achieve, the minimum C/R.

The revised Bank finance is computed as below:

$$C/R = CA / CL$$

$$1.5 = 5,503,461 / CL$$

$$\therefore CL = 3,668,974$$

$$\text{i.e. } 807,471 + \text{Bank Finance} = 3,668,974$$

$$\therefore \text{Bank Finance} = \text{Rs. } 2,861,503.$$

*****24 - Amar Industries Ltd

W.N: 1 Calculation of Creditors for Expenses

Rs. Lakhs

Particulars	Apr	May	Jun	Jul
Total Expenses	180	180	200	200
Less: Non – Cash Exp:				
- Depreciation	10	10	10	10
- Provision for Bonus	5	5	5	5
- Debenture Interest	9	9	9	7
(900 x 12% x 1 / 12) 3m				
(700 x 12% x 1 / 12) 1m				
Total	156	156	176	178
Less: Payments in next mth (50%)	78	78	88	89
Add: Preceding months Exp (50%)	70	78	78	88
∴ Expenses Paid	148	156	166	177

Projected Cash Budget for 4 Months Period Ending Jul' 1999

Particulars (Rs. Lakhs)	Apr	May	Jun	Jul
Opening Cash Bal	100	60	100	280
Add: Cash Receipts				
Cash Sales (10% incl. ED)	88	88	99	99
Cr. Sales of Last Month	700	792	792	891
Total	888	940	991	710

Particulars	Apr	May	Jun	Jul
Less: Cash Payments				
Purchases (1 m Cr)	600	600	660	720
Expenses paid (WN1)	148	156	166	177
Debenture Interest paid	--	--	27	--
Excise Duty paid	80	84	88	92
Redemption of Debentures	--	--	200	--
Income Tax paid (100 – 20)	--	--	80	--
Dividends paid (within 30 days)	--	--	50	--
Total	828	840	1,271	989
Closing Balance	60	100	280	279

Balance Sheet as on 31st July, 1999

Liabilities		Rs. Lakhs	Assets		Rs. Lakhs
Capital & Res	1,650		Fixed Assets	1,300	
Add: Profit	56	1,706	Less: Acc Depn	<u>440</u>	860
12% Debentures	900				
Less: Redemption	200		Sundry Debtors		891
Add: O/s Interest	7	707			
Creditors for Purchases		720	Cl. Stock		1,320
Creditors for Exp		89			
Provision for Bonus		50	Loans & Advances		500
Provision for Tax		20			
Bank OD		279			
Total		3,571	Total		3,571

25 – XYZ Corporation

Decision regarding “Relaxation of Credit Policy”

Rs.

Plan	Present	Option 1	Option 2
Debtors Turnover Ratio	4 times	3 times	2.4 times
1. Contribution (30%)	1,500,000	1,800,000	2,025,000
2. Additional Costs:			
- Bad Debt Losses	150,000	300,000	450,000
- Interest on Inv in Drs	218,750	350,000	492,188
∴ Total Additional Cost	{(150,000 + 218,750) × 60%}	{(300,000 + 350,000) × 60%}	{(450,000 + 492,188) × 60%}
3. ∴ Net Contribution	1,131,250	1,150,000	1,082,812

Advice: The Firm is advised to adopt policy option 1 since, its net contribution is higher among the 3 plans.

Working Notes: 1. Cash Receipts from Customers	Rs.
Opening Sundry Debtors	187,300
Opening Bills Receivable	30,000
Add: Net Sales during the Year	4,637,200
	4,854,500
Less: Closing Debtors	184,200
Closing Bills Receivables	50,000
∴ Cash Receipts from Customers	4,620,300

Note: Provision for Tax & Proposed Dividends

- Unless otherwise mentioned in the problem – the following assumptions have to be made:

1. Opening balance – assumed it as paid
2. Closing balance – assumed it as a current year tax provision made or dividend paid.

2.	Cash Payments to Suppliers, Employees	Rs.
	Opening Sundry Creditors	207,200
	Opening Bills Payable	60,000
	Add: Net Purchases during the Year	3,785,000
	(COGS + Cl St – Op St)	4,052,200
	Less: Closing Sundry Creditors	157,400
	Closing Bills Payable	20,000
	∴ Cash Payments to Suppliers	3,874,800
3.	Cash Payments to Employees & Others	Rs.
	P&L A/c Operating Cash Expenses	317,500
	Add: Op O/s Expenses	30,000
	Cl Prepaid Expenses	Nil
	Less: Cl O/s Expenses	35,000
	Op Prepaid Expenses	Nil
	∴ Cash Payments to Employees & Others	312,500

3. Land & Buildings Account

Particulars	Rs.	Particulars	Rs.
To Op Bal	800,000	By P & L A/c (CY Depreciation)	45,000
To Bank A/c (Purchases) – bal fig	100,000	By Cl bal c/d	855,000
Total	900,000		900,000

4. Furniture, Fixtures & Fittings Account

Particulars	Rs.	Particulars	Rs.
To Op Bal	90,000	By P & L A/c	8,500
		By P & L A/c	2,000
		By Bank A/c	3,000
		By Cl bal c/d	76,500
Total	90,000		90,000

Mehra Ltd

CFS for the year ended 31.3.2005 – Direct Method

Particulars	Rs.	Rs.
A. Cash Flows from Operating Activities:		
- Cash Receipts from Customers	4,620,300	
- Cash paid to Suppliers / Employees	4,187,300	
∴ Cash generated from Operations	433,000	
- Income Tax paid during the Year	269,000	
(CI Advance Tax 270,000 – 1,000 refund)		
∴ Cash Flows Before Extraordinary Items	164,000	
- Extra-ordinary items	Nil	
∴ Net Cash From Operating Activities		164,000

Particulars	Rs.	Rs.
B. Cash Flows from Investing Activities:		
- Purchase of Land & Buildings	100,000	
- Sale of Furniture	3,000	
∴ Net Cash Used in Investing Activities		97,000
C. Cash Flows from Financing Activities:		
- Issue of Equity shares (for cash)	100,000	
- Security Premium received (in cash)	30,000	
- Interim dividend paid	55,000	
- Final dividend paid (Op Pro dividend)	100,000	
∴ Net Cash Used in Financing Activities		25,000
∴ Net Increase in cash & cash equivalents		42,000
Cash & Cash Equivalents on 31.3.04		133,400
Cash & Cash Equivalents on 31.3.05		175,400

Working Notes: 1. Net Profit Before Tax & Extra-ordinary items

Particulars	Rs.	Rs.
a. Closing P&L A/c balance	48,000	
Less: Op P&L A/c balance	30,000	
∴ C/Yr Net Profit After Appr, Tax & E/O		18,000
b. Add: Appropriations made during the Year		
i. Transfer to General Reserve A/c	10,000	
ii. Proposed Interim dividend	20,000	
iii. Proposed Final dividend	<u>50,000</u>	<u>80,000</u>
∴ N/P After tax & E/O items		98,000
c. Add: Provision for Tax made during year		<u>50,000</u>
∴ N/P After E/O items		148,000
d. E/O incomes		Nil
∴ Net Profit Before Tax & E/O items		148,000

2. Land & Buildings Account

Particulars	Rs.	Particulars	Rs.
To Op Bal	200,000	By P & L A/c (CY Depreciation)	5,000
To Capital Reserve	20,000	By Bank A/c - Sale	45,000
Profit on Sale		By Cl bal c/d	170,000
Total	220,000		220,000

3. Plant & Machinery Account

Particulars	Rs.	Particulars	Rs.
To Op Bal	80,000	By Bank A/c	10,000
To Bank A/c (Purchases – bal fig)	142,000	By P & L A/c	2,000
		By P&L A/c	10,000
		By Cl bal c/d	200,000
Total	222,000		222,000

4. Investment Account

Particulars	Rs.	Particulars	Rs.
To Op Bal	20,000	By Bank A/c (Pre-Acquisition Div.)	1,000
To Bank A/c (Purchases – bal fig)	11,000	By Cl bal c/d	30,000
Total	31,000		31,000

Note: Profit on Sale of Land Rs. 20,000 has been credited to Capital Reserve A/c, but not to P&L A/c and hence it will not be taken in min CFS.

Mahendra Limited

Cash Flow Statement for the Year ended 31.3.05 – Indirect

Particulars	Rs.	Rs.
A. Cash Flows from Operating Activities:		
1. Net Profit Before Tax and Extraordinary items	148,000	
2. Adjustments – for Non-Cash / Non-Operating & for Gain / Loss on Sale of F/A & L/T/I		
- Goodwill w/off	20,000	
- Preliminary Expenses w/off	5,000	
- Current Year Depn on Land & Building	5,000	
- Loss on sale of P&M	2,000	
- Current Year Depn on P&M	10,000	
- Post Acquisition dividend cr to P&L A/c	2,000	
∴ Operating Profit before WC changes	188,000	

Particulars	Rs.	Rs.
3. Adjustments – for changes in CA & CL:		
- Increase in Sundry Debtors	30,000	
- Increase in Stock	32,000	
- Increase in Bills Receivables	10,000	
- Increase in Sundry Creditors	22,000	
- Decrease in Bills Payable	4,000	
- Increase in Liability for expenses	6,000	
∴ Cash generated from Operations	140,000	
4. Income Tax paid during the Year	40,000	
∴ Cash Flows before E/O items	100,000	
5. Extra-ordinary Items	Nil	
∴ Net Cash From Operating Activities		100,000

Particulars	Rs.	Rs.
B. Cash Flows from Investing Activities:		
- Sale of Land	45,000	
- Sale of Plant	10,000	
- Purchase of Plant	142,000	
- Purchase of Investments	11,000	
- Total dividends received	3,000	
∴ Net Cash Used in Investing Activity		95,000
C. Cash Flows from Financing Activities		
- Issue of Equity Shares for cash	100,000	
- Redemption of 8% Pref. Shares (cash)	50,000	
- Interim dividend paid	20,000	
- Final dividend paid	42,000	
∴ Net Cash Used in Financing Activity		12,000
Net Decrease in Cash & Cash Equivalents		7,000
Cash & Cash Equivalents on 31.3.04		25,000
Cash & Cash Equivalents on 31.3.05		18,000

Schedule of Changes in WC for the year ended 31.3.02

Particulars		Op bal as on	Cl bal as on	Changes in WC	
				Increase	Decrease
A.	Current Assets				
1.	Bank	11,750	32,000	20,250	--
2.	Stock	98,000	104,000	6,000	--
3.	Debtors	88,000	85,000	--	3,000
B.	Current Liabilities				
1.	Bank OD	22,000	--	22,000	--
2.	Trade Creditors	84,450	75,550	8,900	--
				57,150	3,000
	∴ Net Increase in WC			--	54,150
	Total			57,150	57,150

W.N: 1 Calculation of Funds from Operation

Particulars	Rs.	Rs.
a. Net Profit After tax & Appropriations		
Closing P&L A/c bal on 31.3.02		102,700
Less: Opening P&L A/c bal 31.3.01		100,350
∴ CY Net profit after appropriations		2,350
b. Add: Appropriations made during the year		
Proposed Pref Dividend (100,000 x 10%)	10,000	
Proposed Dividend on E/S (CI bal)	24,000	
Proposed Interim Dividend	4,000	
Bonus Shares Issued	<u>25,000</u>	<u>63,000</u>
∴ CY Net Profit after Tax before Appropriation		65,350
c. Add: Provision for tax made during the year		Nil
∴ CY Net Profit Before Tax		65,350

W.N: 1 Calculation of Funds from Operation

Particulars	Rs.	Rs.
∴ CY Net Profit Before Tax		65,350
d. Add: Non-Operating & Non-Fund Expenses		
Premium on RPS Capital redeemed	2,000	
CY Depreciation on FA	13,260	
Loss on Sale of FA	<u>950</u>	<u>16,210</u>
		81,560
e. Less: Non-Operating & Non-Fund Incomes		
Revaluation Profit on FA	3,000	
Transfer from Reserve for Replacement	<u>5,000</u>	<u>8,000</u>
∴ Funds from Operations		<u>73,560</u>

Funds Flow Statement for the Year Ended 31.3.02

Sources	Rs.	Application	Rs.
Issue of Equity Shares	20,000	Redemption of RPS Cap	20,000
Long Term Loans	40,000	Premium on RPS paid	2,000
Sale of Fixed Assets	250	Payment of Eq dividend	12,000
Funds from Operation	73,560	Interim Dividend paid	4,000
		Pref. Dividend paid	10,000
		Purchase of Investment	15,000
		Purchase of FA	16,660
		Increase in WC	54,150
Total	133,810	Total	133,810

Equity Share Capital Account

Particulars	Rs.	Particulars	Rs.
To Cl Bal c/d	120,000	By Op bal b/d	75,000
		By P&L A/c	25,000
		By Bank A/c	20,000
	120,000		120,000

Fixed Assets Account

Particulars	Rs.	Particulars	Rs.
To Op Bal b/d	240,070	By Sale of Asset A/c	6,000
To P & L A/c	3,000	By Cl Bal c/d	253,730
To Bank A/c	16,600		
(Purchases - bal fig)			
	259,730		259,730

Accumulated Depreciation Account

Particulars	Rs.	Particulars	Rs.
To Sale of Asset A/c	4,800	By Op bal b/d	90,020
To Cl Bal c/d	98,480	By P&L A/c (CY Depn – Bal Fig)	13,260
	103,280		103,280

Sale of Asset Account

Particulars	Rs.	Particulars	Rs.
To FA A/c	6,000	By Acc. Depn A/c	4,800
		By Bank A/c	250
		By P & L A/c (Loss on Sale of FA)	950
	6,000		6,000

29 – A Ltd & B Ltd.

Inter firm Comparison of A Ltd & B Ltd

Ratio	A Ltd	B Ltd
i. a. Current Ratio = Current Assets / Current Liabilities = (3,540 / 1,800) ; (3,800 / 2,100)	1.97 : 1	1.81 : 1
b. Liquid Ratio = Liquid Assets / Current Liabilities = (1,080 / 1,800) ; (1,900 / 2,100)	0.6 : 1	0.9 : 1

Comments: B Ltd is better able to meet its current debts, since, its Ratio is better than that of A Ltd – which means that a major portion of the C/As of B Ltd is not in stocks. (Whereas A Ltd is maintaining an abnormally high level of Stocks)

Ratio	A Ltd	B Ltd
ii. a. Debtors Turnover Ratio (DTR) $= \text{Net Credit Sales} / \text{Avg A/cs Recble}$ $= (11,200 / 660) ; (16,400 / 1,260)$	16.97 times	13.02 times
b. Debtors Collection Period (DCP) $= 365 \text{ days} / \text{DTR}$ $= (365 / 16.97) ; (365 / 13.02)$	21.5 days	28 days
Comments: A Ltd is able to collect money faster from its Debtors than B Ltd, since its DCP is lesser by 6.5 days		

Ratio	A Ltd	B Ltd
iii. Return on Shareholders Funds $= (\text{Net Profit} / \text{Shareholders Funds}) \times 100$ $= (\text{Sales} - \text{CoGS} - \text{Op Exp} - \text{Int} - \text{Tax}) /$ $(\text{Equity Capital} + \text{Retained Earnings}) \times 100$ $= (750 / 4,130) \times 100$ $(790 / 4,500) \times 100$	18.16%	17.56%
Comments: A Ltd is using the Shareholders money more profitably - since its RoSHF is higher than that of B Ltd.		

Ratio	A Ltd	B Ltd
iv. a. Debt Equity Ratio		
= Long term Debt / Shareholders Funds		
= (1,000 / 4,130) ; (2,000 / 4,500)	0.242 : 1	0.444 : 1
b. Interest Coverage Ratio (ICR)		
= (EBIT / Int)	16 times	8.9 times
= (1,600 / 100) ; (1,780 / 200)		

Comments: It is better for the person to buy 10% Debentures.

- ✓ The long-term debt is lesser than the B Ltd, when compared to Shareholders Funds. ICR is almost double than B Ltd – which means that A Ltd has more time to pay Debentures on time.
- ✓ However, it must be noted that B Ltd Debt position and ICR are also very satisfactory and therefore, the Buyer can actually purchase the Debentures of B Ltd also without any risk.

Ratio	A Ltd	B Ltd
v. a. Dividend Payout Ratio (DPR) $= (\text{Total Dividends} / \text{EAIT}) \times 100$ $= (200 / 750) \times 100 ; (360 / 790) \times 100$	27%	46%
b. Retention Ratio $= 100 - \text{DPR}$ $= (100 - 27) ; (100 - 40)$	73%	54%
Comments: A Ltd is retaining a large portion of Income, Since, its retention ratio is higher than B Ltd.		

Ratio	A Ltd	B Ltd
vi. a. Inventory Turnover Ratio (ITR) $= (\text{CoGS} / \text{Average Stock})$ $= (8,000 / 2,460); (12,900 / 1,900)$	3.2 times	6.79 times
b. Inventory Holding Period $= (365 \text{ days} / \text{ITR})$ $= (365 / 3.2) ; (365 / 6.79)$	114.1 days	53.76 days

Ratio	A Ltd	B Ltd
vi. c. Debt Collection Period (DCP)	21.5 days	28 days
d. Conversion of Stock into Cash		
= (IHP + DCP)	133.5 days	82 days
= (114.1 + 21.5) ; (53.76 + 28)		

Comments: B Ltd is able to convert its investment into Cash faster than that of A Ltd by about 52 days

30– Prosper Co.

Indicated Ratios of Prosper Co.

Ratio	Prosper Company	Industry Standard
1. Current Ratio = Current Assets / Current Liabilities = (Cash + Drs + St) / (Crs + B/P + OCL) = (2,640,000 / 990,000)	2.67 : 1	2.40 : 1
2. Debtors Turnover Ratio = (Net Cr Sales / Avg Accounts Recbles) = (5,500,000 / 550,000)	10 times	8 times

Ratio	Prosper Company	Industry Standard
3. Inventory Turnover Ratio $= (\text{Sales} / \text{Avg Stock})$ $= (5,500,000 / 1,650,000)$	3.33 times	9.80 times
4. Total Assets to Turnover Ratio $= (\text{Sales} / \text{Total Assets})$ $= (5,500,000 / 3,850,000)$	1.429 times	2 times
5. Return on Total Assets $= (\text{Net Profit} / \text{Total Assets}) \times 100$ $= (115,500 / 3,850,000) \times 100$	3.0 %	6.6 %

Ratio	Prosper Company	Industry Standard
6. Net Profit Ratio $= (\text{Net Profit} / \text{Net Sales}) \times 100$ $= (115,500 / 5,500,000) \times 100$	2.1 %	3.3 %
7. Return on Shareholders Funds $= (\text{Net Profit} / \text{Shareholders Funds})$ $= (115,500 / 2,400,000) \times 100$	4.81 %	10.70 %
8. Debt Ratio $= (\text{Total Debt} / \text{Total Assets}) \times 100$ $= (1,450,500 / 3,850,000) \times 100$	37.67 %	63.50 %

Analysis of Strengths & Weaknesses of Prosper Co.

a. **Ratio No.s 1 & 2:**

The CR & DTR of Prosper Co are better than those of the Industry Standards. However, the CR is misleading, since the Prosper Co is maintaining an abnormally high levels of Stocks.

b. **Ratio No. 3:**

The ITR is only $1/3^{\text{rd}}$ of the Industry Standards – which indicates that the Prosper Co has an abnormally high level of Stocks (which is actually more than its Net Fixed Assets).

Slow movement of stocks will result in blockage of funds which will mean increasing costs – which will result in reduction of margins for the Prosper Co.

c. Ratio No. 4:

The Total Assets to Turnover Ratio is also lesser than the Industry Standards – which means that the Prosper Co is Overstocking and under-utilising its assets.

d. Ratio No.s 5, 6 & 7:

The Net Profit Ratio is also lesser than the Industry Standards which means that the Co is having high operating costs

The reasons being over-stocking and slow movement of stocks – Which has resulted in high costs for the Co.

As a result of its lower turnover and low Net Profit margins, the Return on Total Assets and Return on Shareholders Funds are also less than half of the Industry Standards.

e. Ratio No. 8:

When compared to the Industry Standards, the Prosper Co has very little debt – which means that the Prosper Cos' Shareholders Funds are substantial and a major portion (almost $2/3^{\text{rd}}$) of its total assets are funded by the SH Funds. This indicates greater / long-term stability for the Prosper Co

Conclusion: The position of the Prosper Co. in many areas is not Satisfactory – when compared to the Industry Standards.

Recommendation: Its recommended that the Prosper Co. should take immediate steps to sell their stocks faster, thereby reducing its over-investment in stocks and improving its operating efficiency which will result in good capacity utilisation for the Co.

If these immediate measures are taken, the Profit Margins will improve and the performance of the Prosper Co. will exceed the Industry Standards.