

CA Rahul Garg's

# FM - SM

TOP 30 Questions

(With 100% Authenticated Answers)

(Must Do Before Exam for Best Marks)

CA RAHUL GARG

(TRG)

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### Question 1

PQR Ltd. has the following capital structure at book value :

Equity Share Capital (₹ 10 each)	1,50,00,000
10% Preference Share Capital (₹ 100 each)	50,00,000
9% debentures (₹ 1000 each)	1,50,00,000
9.5% Term Loan	2,00,00,000

Debentures are redeemable after 3 years and are being currently quoted at ₹ 980 per debenture in the market.

Preference shares are also redeemable after 5 years and currently selling at ₹ 98.50 per share.

The current market price of one equity share is ₹ 75. The risk free interest rate is 6.25%. The market portfolio return is 15.25%. The beta of the company is 1.93.

The applicable income tax rate for the company is 35%.

You are required to calculate the cost of the following using market value as weight :

- (i) Equity share
- (ii) preference share
- (iii) 9% Debenture
- (iv) 9.5% Term loan
- (v) Weighted average cost of capital

ANSWER - 1

(i) 
$$k_e = R_f + \beta (R_m - R_f)$$
$$= 6.25 + 1.93 (15.25 - 6.25)$$
$$= 6.25 + 17.37$$
$$= 23.62\%$$

(ii) 
$$k_p = \left\{ \frac{D + \frac{RV - NP}{n}}{\frac{RV + NP}{2}} \right\} \times 100$$
$$= \left\{ \frac{10 + \frac{100 - 98.5}{5}}{\frac{100 + 98.5}{2}} \right\} \times 100$$
$$= \frac{10 + 0.3}{99.25} \times 100 = 10.38\%$$

(iii) 
$$k_d = \left\{ \frac{I(1-t) + \frac{RV - NP}{n}}{\frac{RV + NP}{2}} \right\} \times 100$$
$$= \left\{ \frac{90(1-0.35) + \frac{1000 - 980}{3}}{\frac{1000 + 980}{2}} \right\} \times 100$$
$$= \frac{58.50 + 6.67}{990} \times 100 = 6.57\%$$

$$(iv) \quad k_{fd} = I(1-t)$$

$$= 9.5(1 - .35) = 6.175\%$$

(V) Statement showing Weighted Average Cost of Capital

Source of finance	Amt. (₹)	Weight	Cost (%)	W × C
Equity share capital	1125 L	.7395	23.62	17.47
10% Preference share capital	49.25 L	.0324	10.38	.34
9% Debentures	147 L	.0966	6.58	.64
9.5% Term loan	200 L	.1315	6.175	.81
	<u>1521.25 L</u>			<u>19.26</u>

$$\therefore K_0 = 19.26\%$$

Computation of Market Values

$$(1) \quad ESc = \frac{150 L}{10} \times 75 = 1125 L$$

$$(2) \quad Psc = \frac{50 L}{100} \times 98.50 = 49.25 L$$

$$(3) \quad Debentures = \frac{150 L}{1000} \times 980 = 147 L$$

## Question 2

Determine the cost of capital of Bulbul Limited using the book value (BV) and market value (MV) weights from the following information :

Sources	Book Value (₹)	Market Value (₹)
Equity shares	1,20,00,000	2,00,00,000
Retained earnings	30,00,000	-
Preference shares	9,00,000	10,40,000
Debentures	36,00,000	33,75,000

- a. Equity : Equity shares are quoted at ₹ 130 per share and a new issue priced at ₹ 125 per share will be fully subscribed; flotation costs will be ₹ 5 per share.
- b. Dividend : During the previous 5 years, dividends have steadily increased from ₹ 10.60 to ₹ 14.19 per share. Dividend at the end of the current year is expected to be ₹ 15 per share.
- c. Preference shares : 15% Preference shares with face value of ₹ 100 would realise ₹ 105 per share.
- d. Debentures : The company proposes to issue 11-year 15% debentures but the yield on debentures of similar maturity and risk class is 16%; flotation cost is 2%.
- e. Tax : Corporate tax rate is 35%. Ignore dividend tax.
- Floatation cost would be calculated on face value.

## Answer - 2

(a) Cost of Equity

$$\text{Growth Rate} = (\text{Product of Wealth Ratios})^n - 1$$

$$\text{or } \left( \frac{FV}{PV} \right)^n - 1$$

$$g = \left( \frac{14.19}{10.60} \right)^5 - 1$$

$$= (1.339)^5 - 1$$

Locating the value 1.339 in FVIF table against  $n=5$

So, growth rate is 6%.

$$D_1 = 15 \text{ ₹}$$

$$P_0 = \text{Issue Price / Share} = 125 \text{ ₹}$$

$$\rightarrow \text{Flotation Cost / Share} = (5) \text{ ₹}$$

$$\underline{120 \text{ ₹}}$$

$$K_e = \left[ \frac{D_1}{P_0} + g \right] \times 100$$

$$= \left[ \frac{15}{120} + .06 \right] \times 100$$

$$= 18.50\%$$

(b) Cost of Retained Earnings

$$K_{re} = \left[ \frac{D_1}{P_0} + g \right] \times 100$$

We shall take current Market Price of ₹ 130 as  $P_0$ .

$$K_{re} = \left[ \frac{15}{130} + .06 \right] \times 100$$

$$= 17.54\%$$

(c) Cost of Preference Share

$$K_p = \frac{D}{NP} \times 100$$

$$D = 100 \times 15\% = 15 \text{ ₹}$$

$$NP = 105 \text{ ₹}$$

$$K_p = \frac{15}{105} \times 100$$

$$= 14.29\%$$

(d) Cost of Debentures

$$K_d = \left\{ \frac{I(1-t) + \frac{RV - NP}{n}}{\frac{RV + NP}{2}} \right\} \times 100$$

Face value/ Deb assumed to be 100 ₹

$$\text{Face value/ Deb} \times \text{Interest (\%)} = \text{Interest (₹)}$$

$$100 \times 15\% = 15 \text{ ₹}$$

$$\text{Market Price/ Deb} \times \text{Yield (\%)} = \text{Interest (₹)}$$

$$\text{MP/ Deb} \times 16\% = 15 \text{ ₹}$$

$$\text{MP/ Deb} = \frac{15}{16\%} = 93.75 \text{ ₹}$$

$$NP \Rightarrow \text{MP/ Deb} = 93.75 \text{ ₹}$$

$$\Rightarrow \text{floatation cost} = (2 \text{ ₹})$$

$$\frac{(100 \times 2\%)}{\text{Face value}} = \underline{2 \text{ ₹}}$$

Redemption value shall be taken as ₹ 100 (at par) in absence of any specific information

$$K_d = \left\{ \frac{15(1 - .35) + \frac{100 - 91.75}{11}}{\frac{100 + 91.75}{2}} \right\} \times 100$$

$$= \frac{9.75 + .75}{95.875} \times 100$$

$$= 10.95\%$$

Statement showing WACC (Book Value Weights)

Source	Amt. (₹)	Weight	Cost (%)	WACC
Equity shares	120L	.6154	18.50	11.38
Retained Earnings	30L	.1538	17.54	2.70
Preference shares	9L	.0462	14.29	.66
Debentures	36L	.1846	10.95	2.02
	<u>195L</u>			<u>16.76%</u>

Market Value of Equity shares

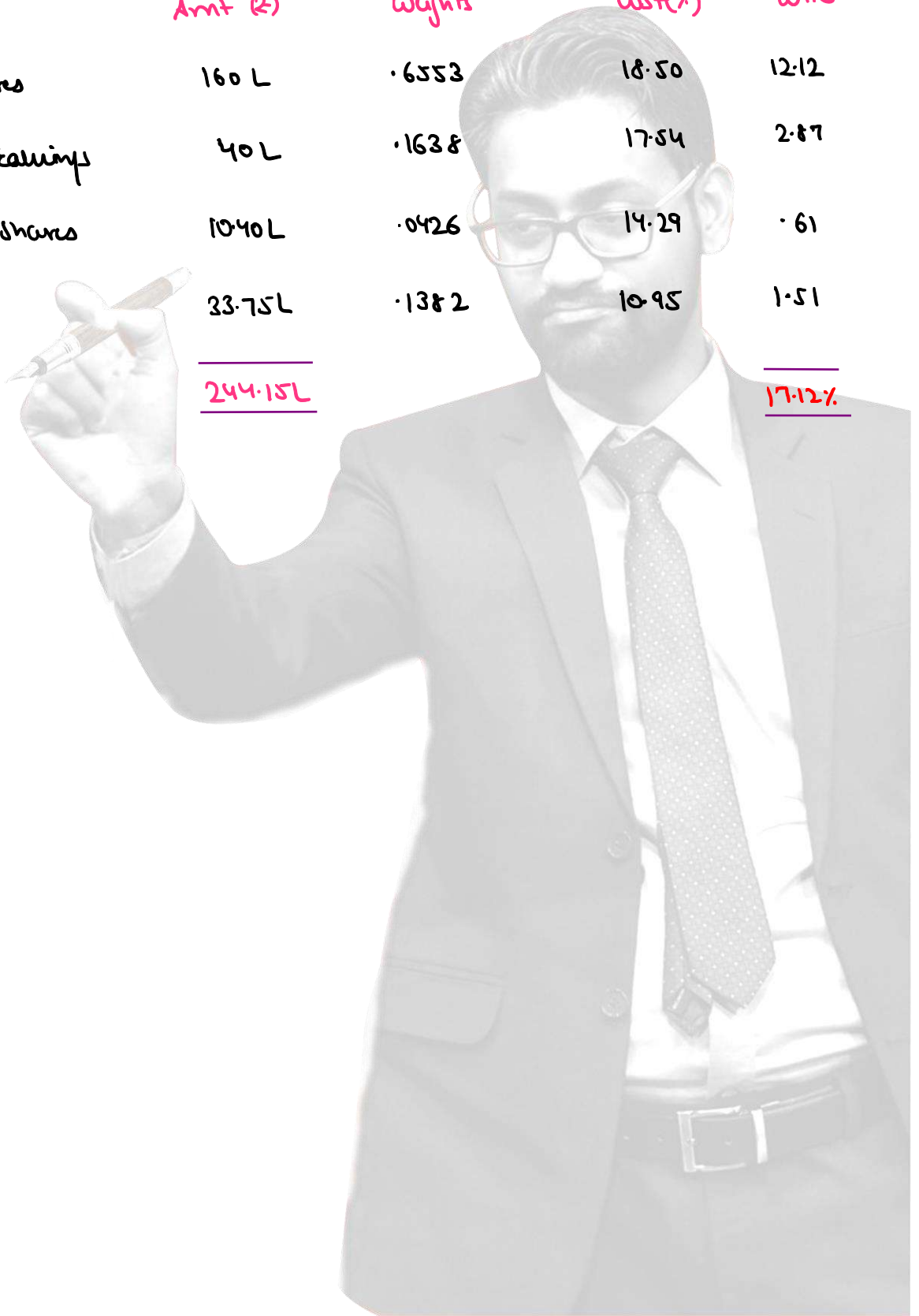
MV of equity shares shall be divided in 2 parts as follows:

	Book Value	Market Value
a. Equity shares	120L	$200L \times \frac{120L}{150L} = 160L$
b. Retained Earnings	30L	$200L \times \frac{30L}{150L} = 40L$
	<u>150L</u>	



## Statement showing WACC (Market Value Weights)

Source	Amt (₹)	Weights	Cost (%)	WxK
Equity Shares	160 L	.6553	18.50	12.12
Retained Earnings	40 L	.1638	17.54	2.87
Preference Shares	1040 L	.0426	14.29	.61
Debentures	33.75 L	.1382	10.95	1.51
	<u>244.15 L</u>			<u>17.12%</u>



### Question 3

The following data relates to Beta Limited:

Particulars	Amount (₹)
Sales	2,00,000
Less : Variable Expenses	60,000
Contribution	1,40,000
Less : Fixed Operating Expenses	1,00,000
EBIT	40,000
Less : Interest	5,000
EBT	35,000

1. Using the concept of Combined leverage, by what percentage will EBT increase if sales increase by 6%.
2. Using the concept of Operating leverage, by what percentage will EBIT increase if there is 10% increase in sales?
3. Using the concept of Financial leverage, by what percentage will EBT increase if EBIT increases by 6%?

### ANSWER-3

$$\begin{aligned} \text{(a) DCL} &= \frac{\text{Contribution}}{\text{EBT}} \\ &= \frac{140000}{35000} = 4 \end{aligned}$$

$$\text{DCL} = \frac{\% \text{ Increase in EBT}}{\% \text{ Increase in Sales}}$$

$$4 = \frac{\% \uparrow \text{ in EBT}}{6}$$

$$\% \uparrow \text{ in EBT} = 4 \times 6 = 24\%$$

$$\begin{aligned} \text{(b) DOL} &= \frac{\text{Contribution}}{\text{EBIT}} \\ &= \frac{140000}{40000} = 3.50 \end{aligned}$$

$$\text{DOL} = \frac{\% \text{ Increase in EBIT}}{\% \text{ Increase in Sales}}$$

$$3.50 = \frac{\% \text{ increase in EBIT}}{10}$$

$$\% \text{ increase in EBIT} = 3.5 \times 10 = 35\%$$

$$\begin{aligned} \text{(c) DFL} &= \frac{\text{EBIT}}{\text{EBT}} \\ &= \frac{40000}{35000} = 1.14 \end{aligned}$$

$$\text{DFL} = \frac{\% \text{ increase in EBT}}{\% \text{ increase in EBIT}}$$

$$1.14 = \frac{\% \uparrow \text{ in EBT}}{6} \Rightarrow \% \uparrow \text{ in EBT} = 1.14 \times 6 = 6.84\%$$

#### Question 4

The Sale revenue of TM excellence Ltd. @ ₹ 20 Per unit of output is ₹ 20 lakhs and Contribution is ₹ 10 lakhs. At the present level of output, the DOL of the company is 2.5. The company does not have any Preference Shares. The number of Equity Shares are 1 lakh. Applicable corporate Income Tax rate is 50% and the rate of interest on Debt Capital is 16% p.a.

Calculate the EPS (at sales revenue of ₹ 20 lakhs) and amount of Debt Capital of the company if a 25% decline in Sales will wipe out EPS.



## Answer - 4

### Income Statement

Particulars	Amt (₹)
sales	20,00,000
- Variable Cost	(10,00,000)
= Contribution	10,00,000
- Fixed Cost	(6,00,000)
= EBIT	4,00,000
- Interest	(150,000)
= EBT	2,50,000
- Tax @ 50%	(1,25,000)
= EAT / EAT	1,25,000

$$\text{EPS} = \frac{\text{EAT}}{\text{No. of Equity Shares}}$$

$$= \frac{125000}{100000} = 1.25 \text{ ₹}$$

$$\text{Debt (₹)} \times \text{Interest (y)} = \text{Interest (₹)}$$

$$\text{Debt (₹)} \times 16\% = 150000$$

$$\text{Debt} = \frac{150000}{16\%}$$

$$\text{Debt} = 9,37,500 \text{ ₹}$$

Notes

$$(1) \quad DOL = \frac{\text{Contribution}}{EBIT}$$

$$2.5 = \frac{10,00,000}{EBIT}$$

$$EBIT = \frac{10,00,000}{2.5} = 4,00,000 \text{ ₹}$$

$$(2) \quad DCL = \frac{\text{Percentage change in EPS}}{\text{Percentage change in Sales}}$$

$$= \frac{100\%}{25\%}$$

$$= 4$$

\* 25% ↓ in sales will wipe out EPS means EPS shall be '0' i.e. 100% change in EPS.

$$(3) \quad DCL = DOL \times DFL$$

$$4 = 2.5 \times DFL$$

$$DFL = \frac{4}{2.5} = 1.60$$

$$1 \quad DFL = \frac{EBIT}{EBT}$$

$$1.60 = \frac{400000}{EBT}$$

$$EBT = \frac{400000}{1.60} = 250000 \text{ ₹}$$

### Question 5

Daud Limited requires ₹ 25,00,000 for a new plant. This plant is expected to yield earnings before interest and taxes of ₹ 5,00,000.

While deciding about the financial plan, the company considers the objective of maximizing earnings per share. It has three alternatives to finance the project - by raising debt of ₹ 2,50,000 or ₹ 10,00,000 or ₹ 15,00,000 and the balance, in each case by issuing equity shares. The company's share is currently selling at ₹ 150, but is expected to decline to ₹ 125 in case the funds are borrowed in excess of ₹ 10,00,000.

The funds can be borrowed at the rate of 10 percent upto ₹ 2,50,000, at 15 percent over ₹ 2,50,000 and upto ₹ 10,00,000 and at 20 percent over ₹ 10,00,000. The tax rate applicable to the company is 50 percent.

Which form of financing should the company choose?

ANSWER-5

Statement showing computation of EPS

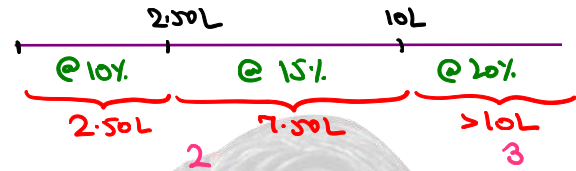
Particulars	Alternative 1	Alternative 2	Alternative 3
EBIT	500000	500000	500000
- Interest (Note 1)	(25000)	(137500)	(237500)
= EBT	475000	362500	262500
- Tax @ 50%	(237500)	(181250)	(131250)
= EAT / EAE	237500	181250	131250
÷ no. of Equity shares (Note 2)	15000	10000	8000
= EPS	15.83	18.125	16.41

As the EPS is highest at Alternative 2, so the company Daud Ltd must raise ₹ 25L through alternative 2 i.e. Debt of ₹ 10L and Equity of ₹ 15L.



Notes:

(1) Computation of Interest



Particulars	1	2	3
(a) @ 10% upto ₹ 2.50L	$250000 \times 10\%$ = 25000	$250000 \times 10\%$ = 25000	$250000 \times 10\%$ = 25000
(b) @ 15% next ₹ 7.50L (10L - 2.50L = 7.50L)	-	$750000 \times 15\%$ = 112500	$750000 \times 15\%$ = 112500
(c) @ 20% over ₹ 10L	-	-	$500000 \times 20\%$ = 100000
	<b>25000</b>	<b>137500</b>	<b>237500</b>

(2) Financial Plan and Computation of Equity Shares

Particulars	1	2	3
(a) Total Requirement	25L	25L	25L
(b) Debt	2.50L	10L	15L (>10L)
(c) Equity (a-b)	22.50L	15L	10L
(d) MPS	150	150	125 ←
(e) No. of Equity Shares (c ÷ d)	15000	10000	8000

### Question 6

A company earns a profit of ₹ 3,00,000 per annum after meeting its Interest liability of ₹ 1,20,000 on 12% debentures. The tax rate is 50%. The number of Equity Shares of ₹ 10 each are 80,000 and the retained earnings amount to ₹ 12,00,000. The company proposes to take up an expansion scheme for which a sum of ₹ 4,00,000 is required. It is anticipated that after expansion, the company will be able to achieve the same return on investment as at present. The funds required for expansion can be raised either through debt at the rate of 12% or by issuing Equity Shares at par.

Required:

- a. Compute the Earnings Per Share (EPS), if :
  - i. the additional funds were raised as debt
  - ii. the additional funds were raised by issue of equity shares
- b. Advise the company as to which source of finance is preferable.

## ANSWER - 6

### Computation of New EBIT

#### (1) Existing ROI

$$\text{Existing ROI} = \frac{\text{Existing EBIT}}{\text{Existing Capital Employed}} \times 100$$

$$= \frac{420000}{3000000} \times 100 = 14\%$$

$$\text{Existing EBIT} = \text{EBT} + \text{Interest}$$

$$= 300000 + 120000$$

$$= 420000 \text{ ₹}$$

$$\text{Existing Capital Employed : (a) Equity share capital} = 80000 \times 10 = 8,00,000 \text{ ₹}$$

$$\text{(b) Retained Earnings} = 12,00,000 \text{ ₹}$$

$$\text{(c) Debentures} = \frac{120000}{12\%} = 10,00,000 \text{ ₹}$$

$$\underline{\underline{30,00,000 \text{ ₹}}}$$

$$(2) \text{ New ROI} = 14\%$$

$$(3) \text{ New Capital Employed} = 30,00,000 + 4,00,000 = 34,00,000 \text{ ₹}$$

#### (4) New EBIT

$$\text{New EBIT} = \text{New Capital Employed} \times \text{New ROI}$$

$$= 34,00,000 \times 14\%$$

$$= 4,76,000 \text{ ₹}$$

This is the starting point for requirement of the question.

(a)

Statement showing EPS

Particulars	Option 1 (Debt)	Option 2 (Equity)
EBIT	476000	476000
- Interest : old debt	(120000)	(120000)
: New debt	(48000)	-
	(400000 x 12%)	
= EBT	308000	356000
- Tax @ 50%	(154000)	(178000)
= EAT / EAE	154000	178000
÷ No. of equity shares		
: Existing	80000	80000
: New	-	40000 (400000/10)
: Total	80000	120000
= EPS	1.93	1.48

(b) As EPS is higher in option 1 as compared to option 2;  
so option 1 i.e. debt financing is preferable.

### Question 7

Kalyanam Ltd. has an operating profit of ₹ 34,50,000 and has employed Debt which gives total Interest Charge of ₹ 7,50,000. The firm has an existing Cost of Equity and Cost of Debt as 16% and 8% respectively.

The firm has a new proposal before it, which requires funds of ₹ 75 Lakhs and is expected to bring an additional profit of ₹ 14,25,000.

To finance the proposal, the firm is expecting to issue an additional debt at 8% and will not be issuing any new equity shares in the market.

Assume no tax culture.

You are required to calculate the Weighted Average Cost of Capital (WACC) of Kalyanam Ltd.:

1. Before the new Proposal
2. After the new Proposal

## ANSWER-7

(1) Before the New Proposal

(a) value of Debt

As there is no tax;  $\therefore$  so  $k_d = \text{Interest } (\%)$

$$\begin{aligned}\text{Value of Debt} &= \frac{\text{Interest } (\text{₹})}{k_d} \\ &= \frac{750000}{8\%} \\ &= \text{93,75,000 ₹}\end{aligned}$$

(b) value of Equity

$$\begin{aligned}V_e &= \frac{\text{EBIT} - \text{Interest}}{k_e} \\ &= \frac{3450000 - 750000}{16\%} \\ &= \text{168,75,000 ₹}\end{aligned}$$

(c) statement showing WACC

Source	Amount (₹)	Weight	Cost (%)	WxC
Debt	9375000	.3571	8	2.86
Equity	16875000	.6429	16	10.29
	<u>262,50,000</u>			<u>13.14%</u>

(2) After the New Proposal

(a) value of Debt

$$\begin{aligned}&= \text{Old Debt} + \text{Additional Debt} \\ &= 9375000 + 7500000 \\ &= \text{168,75,000 ₹}\end{aligned}$$

(b) Value of Equity

It shall remain same at 16875000 ₹ (i.e same as old equity).

(c)  $K_e$

$$K_e = \frac{EBIT - \text{Interest}}{V_e} \times 100$$

$$EBIT = 3450000 + 1425000 = 4875000 \text{ ₹}$$

$$\text{Interest} = 750000 + (75 \text{ L} \times 8\%) = 1350000 \text{ ₹}$$

$$K_e = \frac{4875000 - 1350000}{16875000} \times 100$$
$$= 20.89 \%$$

(d) Statement showing WACC

Source	Amount (₹)	Weight	Cost (%)	WxC
Debt	168,75,000	.50	8	4
Equity	168,75,000	.50	20.89	10.45
	<u>337,50,000</u>			<u>14.45%</u>

$K_0$  has increased from 13.14% to 14.45% after the new proposal is accepted, to raise ₹ 75 lakhs through 8% Debt.

### Question 8

There are two firms P and Q which are identical except P does not use any debt in its capital structure while Q has ₹ 8,00,000, 9% debentures in its capital structure. Both the firms have earnings before interest and tax of ₹ 2,60,000 p.a. and the capitalization rate is 10%.

Assuming the corporate tax of 30%, calculate the value of these firms according to MM Hypothesis.





Answer - 8

P

• Unlevered

$$\begin{aligned} \text{Value of P (} V_u \text{)} &= \frac{\text{EBIT (1-t)}}{K_0} \\ &= \frac{260000 (1-.30)}{10\%} \\ &= \frac{182000}{10\%} = 18,20,000 \text{ ₹} \end{aligned}$$

Q

• levered

9% Debentures, 800000 ₹

$$\begin{aligned} \text{Value of Q (} V_L \text{)} &= V_u + (\text{Debt} \times t) \\ &= 1820000 + (800000 \times .30) \\ &= 1820000 + 240000 \\ &= 2060000 \text{ ₹} \end{aligned}$$

### Question 9

X Ltd. an existing profit-making company, is planning to introduce a new product with a projected life of 8 years. Initial equipment cost will be ₹ 120 lakhs and additional equipment costing ₹ 10 lakhs will be needed at the beginning of third year. At the end of the 8 years, the original equipment will have resale value equivalent to the cost of removal, but the additional equipment would be sold for ₹ 1 lakh. Working capital of ₹ 15 lakhs will be needed. The 100% capacity of the plant is of 4,00,000 units per annum, but the production and sales-volume expected are as under:

Year	Capacity in percentage
1	20
2	30
3 - 5	75
6 - 8	50

A sale price of ₹ 100 per unit with a profit volume ratio of 60% is likely to be obtained. Fixed Operating Cash Cost are likely to be ₹ 16 lakhs per annum. In addition to this, the advertisement expenditure will have to be incurred as under:

Year	1	2	3-5	6-8
Expenditure in ₹ lakhs each year	30	15	10	4

The company is subjected to 50% tax, straight-line method of depreciation, (permissible for tax purposes also) and taking 12% as appropriate after tax cost of Capital, should the project be accepted?

## ANSWER-9

### Depreciation

$$(a) \text{ Initial Equipment} = \frac{120L - 0}{8} = 15L \text{ ₹ Pa}$$

(Purchased in beginning)

$$(b) \text{ Additional Equipment} = \frac{10L - 1L}{6} = 1.50L \text{ ₹ Pa}$$

(Purchase in 3<sup>rd</sup> year beginning)

### Outflow in '0' year

: Initial Equipment	120L
: Working Capital	15L
	<u>135L</u>

### Extra Inflow in last year (8<sup>th</sup> year)

: Working Capital Recovery	15L
: Scrap (Additional Equipment)	1L
	<u>16L</u>

### Alternative Treatment

#### ∴ Additional Equipment

$$10L \times PVF(12\%, 2)$$

$$10L \times 0.797 \Rightarrow 7.97L$$

if not considered as deduction from Iff of Year 2.

$$\text{Total PVCO} = 135L + 7.97L = 142.97L$$

(if follow this alternative solution, don't deduct cost of additional equipment from cash flow of 7<sup>2</sup>)

## Computation of Cash IITs

Particulars	1	2	Yr 3, Yr 4 & Yr 5 individually ↓ 3-5	Yr 6, Yr 7 & Yr 8 individually ↓ 6-8
(a) Production & Sales Units	$400000 \times 20\%$ = 80000	$400000 \times 30\%$ = 120000	$400000 \times 75\%$ = 300000	$400000 \times 50\%$ = 200000
(b) Sales (a x 100)	80L	120L	300L	200L
(c) Contribution (b x 60%)	48L	72L	180L	120L
(d) Fixed operating Cash Cost	16L	16L	16L	16L
(e) Advertisement Expenditure	30L	15L	10L	4L
(f) EBDT (c - d - e)	2L	41L	154L	100L
(g) Depreciation				
: Initial Equipment	15L	15L	15L	15L
: Additional Equipment	-	-	1.50L	1.50L
(h) EBT (f - g)	(13L)	26L	137.50L	83.50L
(i) Tax @ 50%	6.50L	13L	68.75L	41.75L
	(Tax saving)		Tax expense	
(j) EAT (h - i)	(6.50L)	13L	68.75L	41.75L
(k) Cash IIT (j + g)	8.50L	28L	85.25L	58.25L
(l) Additional Equipment		(10L)		
		<u>18L</u>		

## Computation of NPV

Year end	Particulars	CF	PVF @ 12%	PVCF
0	Initial out	(135L)	1	(135L)
1	Cash In	8.50L	.893	7.59L
2		18L	.797	14.35L
3		85.25L	.712	60.70L
4		85.25L	.636	54.22L
5		85.25L	.567	48.34L
6		58.25L	.507	29.53L
7		58.25L	.452	26.33L
8		58.25L	.404	23.53L
8	Outflow due to scrap & recovery of WC	16L	.404	6.46L
				<u>136.05L</u>

As NPV is positive, X Ltd. must accept the project

### Question 10

MNP Limited is thinking of replacing its existing machine by a new machine which would cost ₹ 60 lakhs.

The company's current production is ₹ 80,000 units, and is expected to increase to 1,00,000 units, if the new machine is bought. The selling price of the product would remain unchanged at ₹ 200 per unit.

The following is the cost of producing one unit of product using both the existing and new machine :

	Unit Cost (₹)		
	Existing Machine (80,000 units)	New Machine (1,00,000 units)	Difference
Materials	75.00	63.75	(11.25)
Wages & Salaries	51.25	37.50	(13.75)
Supervision	20.00	25.00	5.00
Repairs and Maintenance	11.25	7.50	(3.75)
Power and Fuel	15.50	14.25	(1.25)
Depreciation	0.25	5.00	4.75
Allocated Corporate Overheads	10.00	12.50	2.50
	<b>183.25</b>	<b>165.50</b>	<b>(17.75)</b>

The existing machine has an accounting book value of ₹ 1,00,000, and it has been fully depreciated for tax purpose. It is estimated that machine will be useful for 5 years. The supplier of the new machine has offered to accept the old machine for ₹ 2,50,000. However, the market price of old machine today is ₹ 1,50,000 and it is expected to be ₹ 35,000 after 5 years. The new machine has a life of 5 years and a salvage value of ₹ 2,50,000 at the end of its economic life.

Assume corporate Income tax rate at 40%, and depreciation is charged on straight line basis for Income-tax purposes. Further assume that book profit is treated as ordinary income for tax purpose.

The opportunity cost of capital of the Company is 15%.

1. Estimate net present value of the replacement decision.
2. Should Company go ahead with the replacement decision? Suggest.



## ANSWER- 10

(1)

Old

			5 Yrs	
OC	Br	0 (Tax)		SV 35000
	BV	100000 (Accounts) X		
	SV	250000 (Exchange)		
	SV	150000 (open market) X		

New

			5 Yrs	
OC	60,00,000			SV 250000

- Book value of machine as per Accounts is irrelevant
- Better option in case of old machine new is to accept offer of supplier of ₹ 250000. So, scrap value in open market of ₹ 150000 is irrelevant because it is less than the offer of supplier
- Allocated corporate overheads are irrelevant as they are not being incurred due to machine in question. These expenses have originated due to something else & just being allocated on these machines.

Note 1: Incremental Cash Outflow

Particulars	Amt (₹)
Cost of new machine	60,00,000
- Salvage value of old machine as per offer of supplier	(2,50,000)
+ Tax expense on Capital Gain [(250000 - 0) × 40%]	100000
	<u>58,50,000</u>



## Note 2: Incremental Cash IIT

S.No.	Particulars	Existing Machine	New Machine
a.	Units	80000	100000
b.	Sales (a. x 200)	160L	200L
c.	Materials	80000 x 75 = 60L	100000 x 63.75 = 63.75L
d.	Wages & Salaries	80000 x 51.25 = 41L	100000 x 37.50 = 37.50L
e.	Supervision	80000 x 20 = 16L	100000 x 25 = 25L
f.	Repairs & Maintenance	80000 x 11.25 = 9L	100000 x 7.50 = 7.50L
g.	Power & Fuel	80000 x 15.50 = 12.40L	100000 x 14.25 = 14.25L
h.	Profit before Tax (b-c-d-e-f-g)	21.60L	52L
i.	Tax @ 40%	8.64L	20.80L
j.	Profit After Tax (h-i)	12.96L	31.20L

$$\text{Incremental PAT / Cash IIT} = 31.20 - 12.96 = 18.24L$$

Another way of finding Incremental PAT

Particulars	Amount
Incremental Revenue	40L
$(100000 - 80000) \times 200$	
- Incremental Cost	(9.60L)
$[(100000 \times 148) - (80000 \times 173)]$	
Incremental PBT	30.40L
- Tax @ 40%	(12.16L)
Incremental PAT	<u>18.24L</u>

### Note 3: Incremental Cash Ilt Due to Extra Depreciation

- (a) Dep. of Existing Machine = NIL
- (b) Dep. of New Machine =  $\frac{60L - 2.50L}{5} = 11.50L$  ↙ This will remain as BV after 5 years.
- (c) Incremental Dep. = 11.50L
- (d) Incremental Tax saving =  $11.50L \times 40\% = 4.60L$

### Note 4: Incremental Ilt Due to Scrap

- (a) Ilt due to scrap of existing machine = 21000
- (b) Ilt due to scrap of new machine = 250000
- (c) Incremental Ilt due to scrap =  $250000 - 21000 = 229000$

	Existing Machine	New Machine
a. Book value	0	250000 → $[60L - (11.50L \times 5)]$
b. Scrap Value	35000	250000
c. Capital Gain	35000	-
d. Tax Expense on CG	$35000 \times 40\%$ = 14000	-
e. Net Ilt due to scrap (b - d)	$35000 - 14000$ = 21000	250000

## Schedule of Incremental NPV

Year end	Particulars	Incremental CF	PVF/AF @ 15%	Incremental PVCF
0	Incremental cost of	(58.50L)	1	(58.50L)
1-5	Incremental PAT	18.24L	3.352	61.14L
1-5	Incremental tax saving on depreciation	4.60L	3.352	15.42L
5	Incremental cash infl due to scrap	2.29L	.497	1.14L
				<u>19.20L</u>
				(1919781)

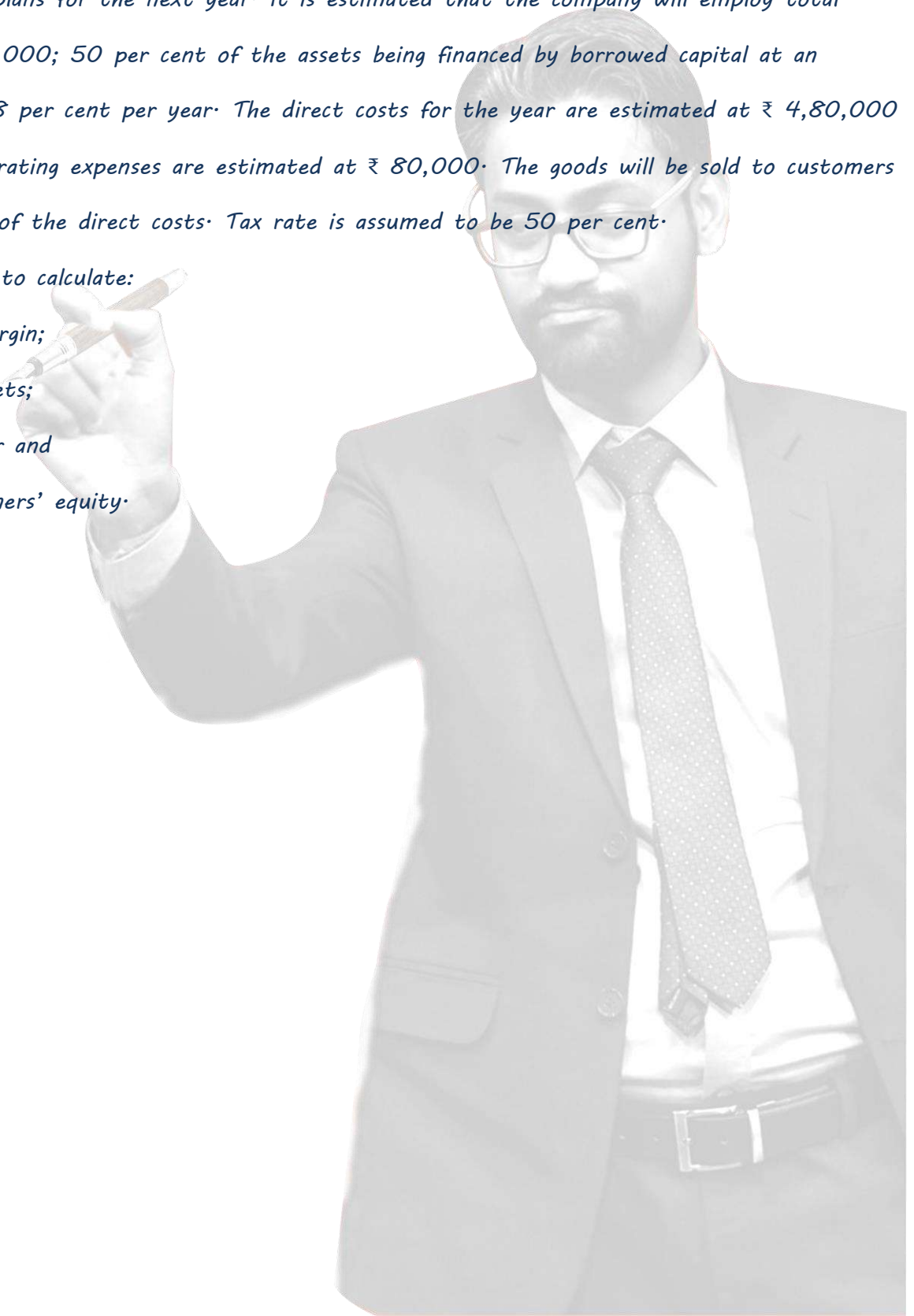
(2) As the Incremental NPV is positive, MNP Limited must go ahead with replacement decision i.e. replace the existing machine with the new one

### Question 11

X Co. has made plans for the next year. It is estimated that the company will employ total assets of ₹ 8,00,000; 50 per cent of the assets being financed by borrowed capital at an interest cost of 8 per cent per year. The direct costs for the year are estimated at ₹ 4,80,000 and all other operating expenses are estimated at ₹ 80,000. The goods will be sold to customers at 150 per cent of the direct costs. Tax rate is assumed to be 50 per cent.

You are required to calculate:

- a. net profit margin;
- b. return on assets;
- c. asset turnover and
- d. return on owners' equity.



## Answer-11

### Income Statement

Particulars	Computation	Amt (₹)
Sales	480000 × 150%	720000
- Direct Costs		(480000)
- Operating Expenses		(80000)
EBIT		160000
- Interest	800000 × 50% × 8%	(32000)
EBT		128000
- Tax @ 50%		(64000)
EAT / EAE		64000

$$\begin{aligned} \text{(a) Net Profit Margin} &= \frac{\text{Net Profit}}{\text{Sales}} \times 100 \\ &= \frac{64000}{720000} \times 100 \\ &= 8.89\% \end{aligned}$$

(b) Return on Assets

$$\begin{aligned} \text{(i) Pre-Tax} &= \frac{\text{EBIT}}{\text{Total Assets}} \times 100 \\ &= \frac{160000}{800000} \times 100 \\ &= 20\% \end{aligned}$$

$$\begin{aligned}
 \text{(ii) Post-Tax} &= \frac{\text{EBIT} (1-t)}{\text{Total Assets}} \times 100 \\
 &= \frac{160000 (1-.50)}{800000} \times 100 \\
 &= \frac{80000}{800000} \times 100 \\
 &= 10\%
 \end{aligned}$$

$$\begin{aligned}
 \text{(iii) formula used by ICAI sometimes} &= \frac{\text{EAT}}{\text{Total Assets}} \times 100 \\
 &= \frac{64000}{800000} \times 100 \\
 &= 8\%
 \end{aligned}$$

$$\begin{aligned}
 \text{(c) Assets Turnover Ratio} &= \frac{\text{Sales}}{\text{Assets}} \\
 &= \frac{720000}{800000} \\
 &= 0.90
 \end{aligned}$$

$$\begin{aligned}
 \text{(d) Return on owner's equity} &= \frac{\text{EAE}}{\text{Owner's Equity}} \times 100 \\
 &= \frac{64000}{400000} \times 100 \\
 &= 16\%
 \end{aligned}$$

\* Total Assets = 800000

50% financed through Equity = 800000 x 50% = 400000 ₹

## Question 12

Bappa Limited has furnished the following ratios and information relating to the year ended 31st March, 2013.

Sales	₹ 60,00,000
Return on net worth	25%
Rate of income tax	50%
Share capital to reserves	7:3
Current ratio	2
Net profit to sales	6.25%
Inventory turnover (based on cost of goods sold)	12
Cost of goods sold	₹ 18,00,000
Interest on debentures	₹ 60,000
Sundry debtors	₹ 2,00,000
Sundry creditors	₹ 2,00,000

You are required to:

- Calculate the operating expenses for the year ended 31st March, 2013.
- Prepare a balance sheet as on 31st March in the following format:

### Balance Sheet as on 31st March, 2013

Liabilities	₹	Assets	₹
Share Capital		Fixed Assets	
Reserve and Surplus		Current Assets	
15% Debentures		Stock	
Sundry Creditors		Debtors	
		Cash	

## ANSWER-12

$$\begin{aligned} (1) \quad \text{Gross Profit} &= \text{Sales} - \text{COGS} \\ &= 60,00,000 - 18,00,000 \\ &= 42,00,000 \end{aligned}$$

$$(2) \quad \text{Net Profit Ratio} = \frac{\text{Net Profit}}{\text{Sales}} \times 100$$

$$6.25\% = \frac{\text{Net Profit}}{60,00,000}$$

$$\begin{aligned} \text{Net Profit} &= 60,00,000 \times 6.25\% \\ &= 375,000 \end{aligned}$$

(3) NP is also known as EAT

$$\text{EAT} = \text{EBT} (1-t)$$

$$\begin{aligned} \therefore \text{EBT} &= \frac{\text{EAT}}{1-t} \\ &= \frac{375,000}{1-0.50} \\ &= 750,000 \end{aligned}$$

$$\begin{aligned} \text{Tax} &= \text{EBT} - \text{EAT} \\ &= 750,000 - 375,000 \\ &= 375,000 \end{aligned}$$

or

$$\begin{aligned} \text{Tax} &= \text{EBT} \times \text{Tax \%} \\ &= 750,000 \times 50\% \\ &= 375,000 \end{aligned}$$



(c)

Trading and Profit & Loss A/c of Alpha Ltd  
for year ending 31 Mar 2013

Particulars	Amt	Particulars	Amt
To CoGS	1800000	By sales	60,00,000
To Gross Profit	4200000		
	<u>6000000</u>		<u>60,00,000</u>
To Interest on Debentures	60000	By Gross Profit	4200000
To Operating Expenses	3340000		
To Income Tax	375000		
To Net Profit	375000		
	<u>4200000</u>		<u>4200000</u>

$$(4) \text{ Return on Net worth} = \frac{\text{EAT}}{\text{Net worth}} \times 100$$

$$25\% = \frac{375000}{\text{Net worth}}$$

$$\text{Net worth} = \frac{375000}{25\%}$$

$$= 15,00,000$$

$$(5) \text{ Share capital to Reserves} = \frac{\text{Share capital}}{\text{Reserves}}$$

$$\frac{7}{3} = \frac{\text{Share capital}}{\text{Reserves}}$$

$$7 \text{ Reserves} = 3 \text{ Share capital}$$

$$\text{Reserves} = \frac{3}{7} \text{ Share capital}$$

$$\text{and, Net worth} = \text{Share capital} + \text{Reserves}$$

$$1500000 = \text{Share capital} + \frac{3}{7} \text{ Share capital}$$

$$1500000 = \frac{7 \text{ Share capital} + 3 \text{ Share capital}}{7}$$

$$1500000 \times 7 = 10 \text{ Share capital}$$

$$\text{Share capital} = \frac{1500000 \times 7}{10}$$

$$\text{Share capital} = 1050000$$

$$\text{Reserves} = \frac{3}{7} \times 1050000 = 450000$$

$$(6) \text{ Debtures} = \frac{\text{Interest (₹)}}{\text{Interest (\%)}}$$

$$15\% \text{ Debentures} = \frac{60000}{15\%}$$

$$= 400000$$

(7)  $\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$

$$2 = \frac{\text{Current Assets}}{200000}$$

$$\text{Current Assets} = 200000 \times 2$$

$$= 400000$$

-----> sundry creditors is the only current liability

(8)  $\text{Inventory To Ratio} = \frac{\text{COGS}}{\text{Average Stock}}$

$$12 = \frac{1800000}{\text{Avg. stock}}$$

$$\text{Avg. stock} = \frac{1800000}{12}$$

$$= 150000$$

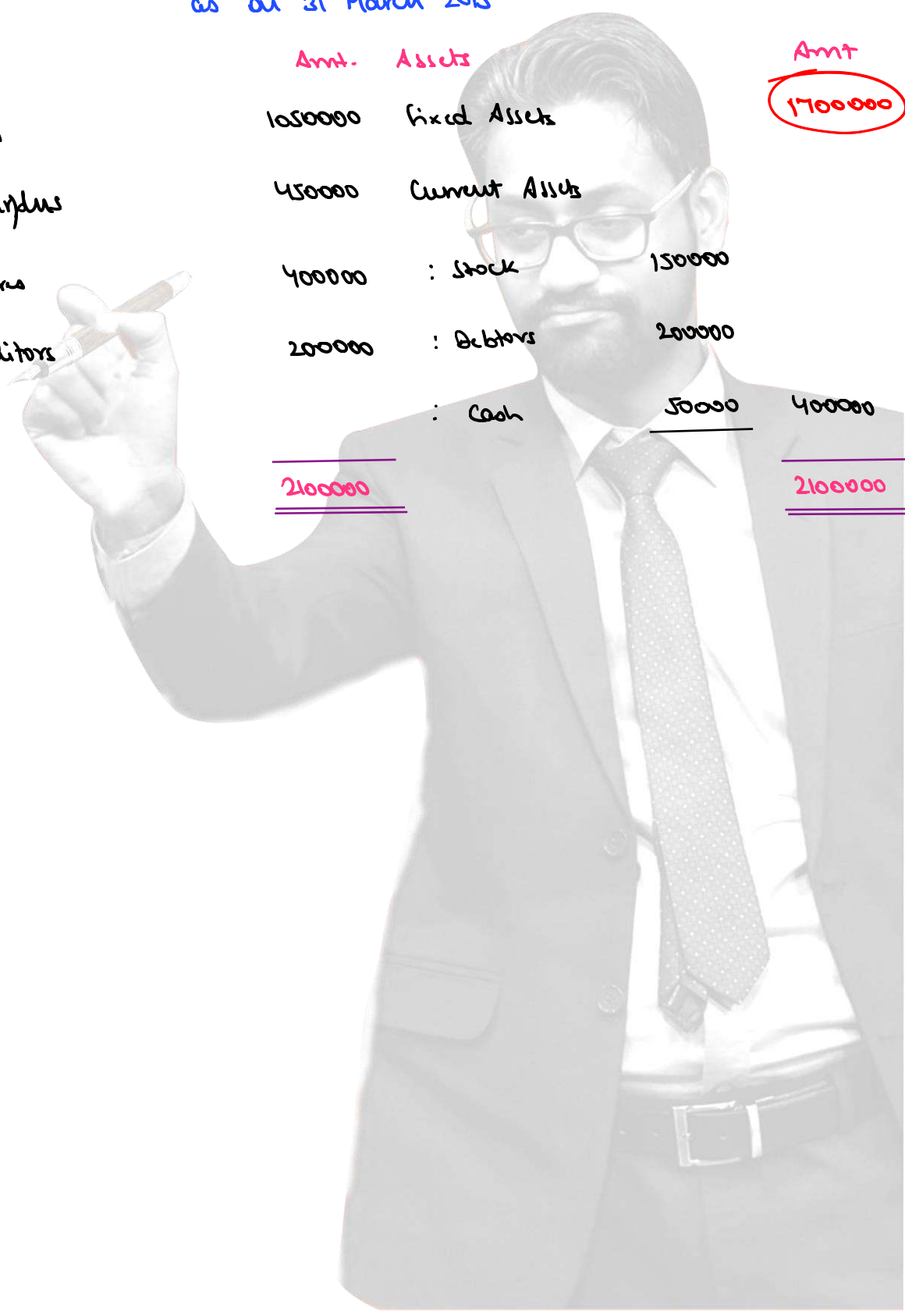
(9)  $\text{Cash} = \text{Current Assets} - \text{Debtors} - \text{Stock}$

$$= 400000 - 200000 - 150000$$

$$= 50000$$

Balance Sheet of Zappa Ltd  
as on 31 March 2013

Liabilities	Amt.	Assets	Amt
Share Capital	1050000	Fixed Assets	1700000
Reserve & Surplus	450000	Current Assets	
15% Debentures	400000	: Stock	150000
Sundry Creditors	200000	: Debtors	200000
		: Cash	50000
			400000
	2100000		2100000

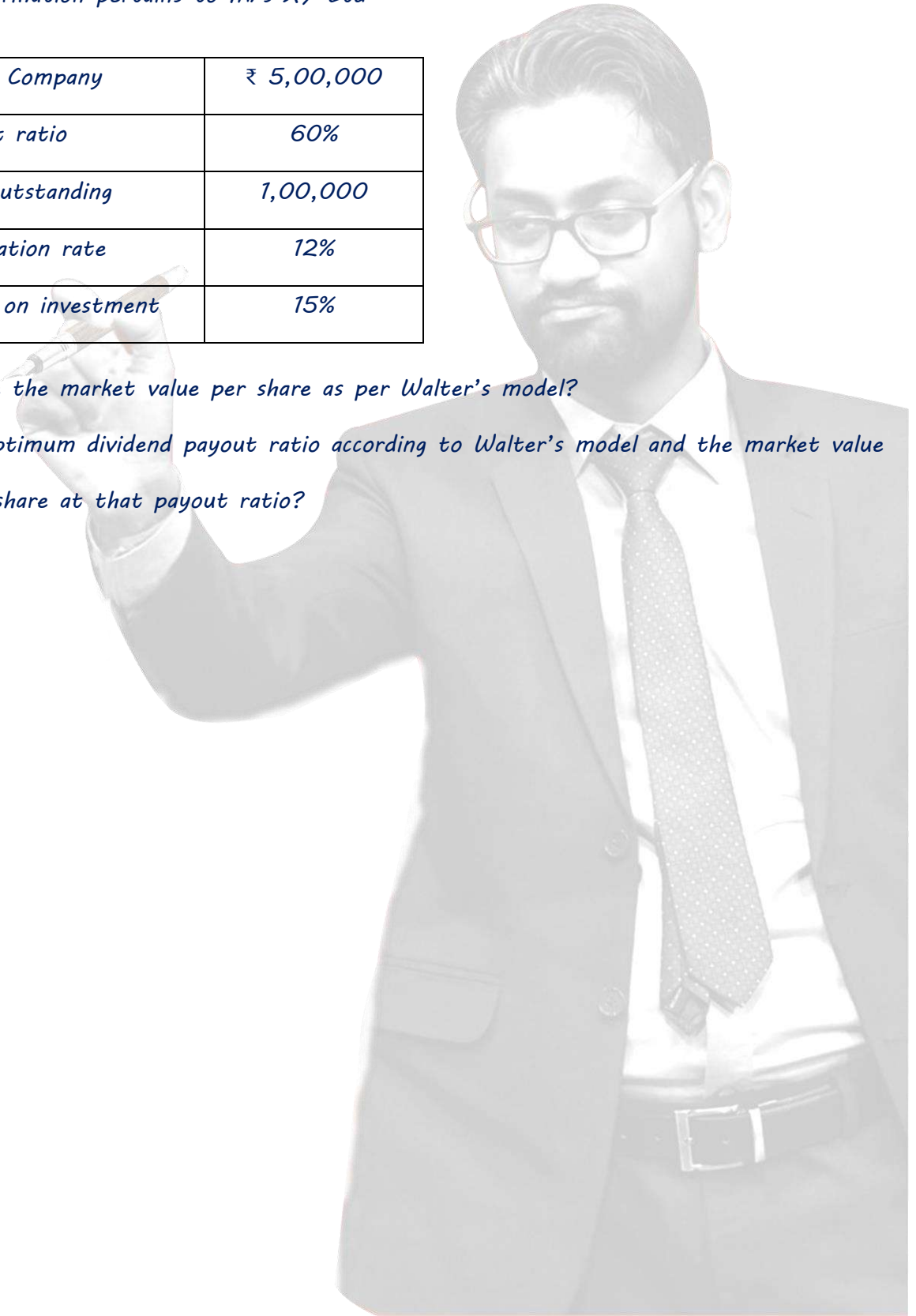


### Question 13

The following information pertains to M/s XY Ltd.

Earnings of the Company	₹ 5,00,000
Dividend Payout ratio	60%
No. of shares outstanding	1,00,000
Equity capitalization rate	12%
Rate of return on investment	15%

- a. What would be the market value per share as per Walter's model?
- b. What is the optimum dividend payout ratio according to Walter's model and the market value of Company's share at that payout ratio?



ANSWER-13

$$\begin{aligned} \text{(a)} \quad \text{EPS} &= \frac{\text{EAE}}{n} \\ &= \frac{500000}{100000} = 5 \text{ ₹} \end{aligned}$$

$$D = 5 \times 60\% = 3 \text{ ₹}$$

$$r = 15\%$$

$$k = 12\%$$

$$\begin{aligned} P &= \frac{D + (E - D) \times \frac{r}{k}}{k} \\ &= \frac{3 + (5 - 3) \times \frac{.15}{.12}}{.12} \\ &= \frac{3 + 2.5}{.12} \\ &= 45.83 \text{ ₹} \end{aligned}$$

(b) As  $r > k$ ; so M/s XY Ltd. is a growth firm and optimum D/P payout ratio in such case is NIL

$$\begin{aligned} P &= \frac{0 + (5 - 0) \times \frac{.15}{.12}}{.12} \\ &= \frac{6.25}{.12} \\ &= 52.08 \text{ ₹} \end{aligned}$$

### Question 14

Day Ltd., a newly formed company has applied to the Private Bank for the first time for financing its Working Capital Requirements.

The following information is available about the projections for the current year :

Estimated Level of Activity	Completed Units of Production 31,200 plus units 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.

ANSWER-14

Cost sheet

Particulars	Computation	Amt (₹)
Opening stock of Raw Material		NIL
+ Purchase of Raw Material		1872000
- closing stock of Raw Material	$1728000 \times \frac{30}{360}$	(144000)
= Raw Material Consumed	$\begin{matrix} \text{FG} & & \text{WIP} \\ (31200 \times 40) + & (12000 \times 40 \times 100\%) \\ \hline 1248000 & 480000 \end{matrix}$	1728000
Direct Wages	$\begin{matrix} \text{FG} & & \text{WIP} \\ (31200 \times 15) + & (12000 \times 15 \times 50\%) \\ \hline 468000 & 90000 \end{matrix}$	558000
Prime Cost		2286000
Overhead (₹ 30/-unit) (excluding depreciation)	$\begin{matrix} \text{FG} & & \text{WIP} \\ (31200 \times 30) + & (12000 \times 30 \times 50\%) \\ \hline 936000 & 180000 \end{matrix}$	1116000
Factory Cost on FG & WIP		3402000
+ Opening stock of WIP		NIL
- closing stock of WIP	$\begin{matrix} \text{Mat} & \text{Job} & \text{OH} \\ 480000 + & 90000 + & 180000 \end{matrix}$	(750000)
Factory Cost on FG / Cost of Production		2652000
+ Opening stock of FG		NIL
- closing stock of FG	$\frac{2652000}{31200} \times 24000$	(2040000)
Cost of Goods Sold / Cost of Sales		612000



## Statement showing Estimation of Working Capital

S.No. Particulars	Computation	Amount (₹)
<b>A. Current Assets</b>		
1. Raw Material stock	-	144000
2. Work-in-Progress stock	-	750000
3. Finished Goods stock	-	2040000
4. Debtors	$612000 \times \frac{60}{360}$	102000
5. Cash Balance	-	200000
		<b>3236000</b>
<b>B. Current liabilities</b>		
1. Raw Material Creditors	$1872000 \times \frac{30}{360}$	156000
2. O/s wages	$55000 \times \frac{15}{360}$	23250
		<b>179250</b>
<b>C. Working Capital</b>	<b>A - B</b>	<b>3056750</b>

### Question 15

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

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

AWSWER-15

Statement showing Evaluation of credit policy

S.No.	Particulars	Existing	Proposed
a.	Sales	12,00,000	16,00,000 (12L + 1/3)
b.	Contribution (a. x 22%)	264000	352000
c.	Incremental Contribution	-	88000
d.	Bad debts	$1200000 \times 1.5\%$ 18000	$1600000 \times 2\%$ 32000
e.	Incremental Bad Debts	-	14000
f.	Discount	$1200000 \times 50\% \times 1\%$ 6000	$1600000 \times 80\% \times 2\%$ 25600
g.	Incremental Discount	-	19600
h.	Opportunity Cost	$1200000 \times 78\% \times \frac{30}{360} \times 15\%$ 11700	$1600000 \times 78\% \times \frac{20}{360} \times 15\%$ 10400
i.	Savings in Opportunity Cost	-	1300
j.	Net Incremental Gain (c-e-g+i)	-	55700
k.	Tax @ 30% (55700 x 30%)	-	(16710)
l.	Net Incremental Gain after Tax (j-k)	-	<u>38990</u>

As there is Net Incremental Gain, so the company must change its credit terms.

## Question 16

The following details are forecasted by a company for the purpose of effective utilization and management of cash :

a. Estimated sales and manufacturing costs:

Year & Month 2010	Sales (₹)	Materials (₹)	Wages (₹)	Overheads (₹)
April	4,20,000	2,00,000	1,60,000	45,000
May	4,50,000	2,10,000	1,60,000	40,000
June	5,00,000	2,60,000	1,65,000	38,000
July	4,90,000	2,82,000	1,65,000	37,500
August	5,40,000	2,80,000	1,65,000	60,800
September	6,10,000	3,10,000	1,70,000	52,000

b. Credit terms :

1. sales 20% on cash, 50% of the credit sales are collected next month and the balance in the following month
2. credit allowed by suppliers is 2 months
3. Delay in payment of wages is  $\frac{1}{2}$  (one-half) month and of overheads is 1 (one) month.

c. Interest on 12 percent debentures of ₹ 5,00,000 is to be paid half-yearly in June and December.

d. Dividends on investments amounting to ₹ 25,000 are expected to be received in June, 2010.

e. A new machinery will be installed in June, 2010 at a cost of ₹ 4,00,000 which is payable in 20 monthly installments from July, 2010 onwards.

f. Advance income-tax, to be paid in August, 2010, is ₹ 15,000.

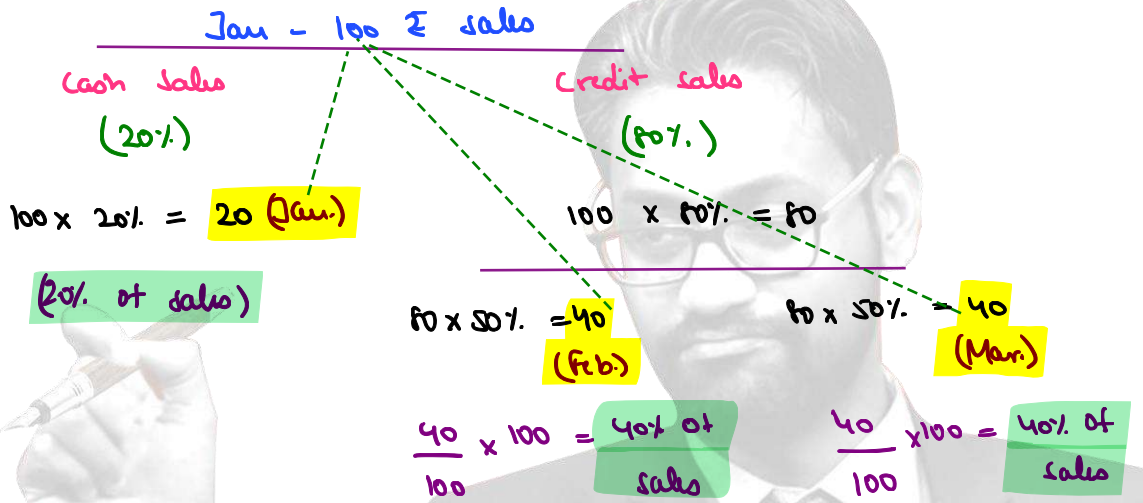
g. Cash balance on 1st June, 2010 is expected to be ₹ 45,000 and the company wants to keep it at the end of every month around this figure. The excess cash (in multiple of thousand rupees) is being put in fixed deposit.

*You are required to prepare monthly Cash budget on the basis of above information for four months beginning from June, 2010.*



ANSWER-16

(1) Credit Sales Terms



If sales of Jan. 50000 ₹

Method 1

Jan =  $5L \times 20\% = 1L$  ₹

Feb =  $5L \times 80\% \times 50\% = 2L$  ₹

Mar =  $5L \times 80\% \times 50\% = 2L$  ₹

Method 2

$5L \times 20\% = 1L$  ₹

$5L \times 40\% = 2L$  ₹

$5L \times 40\% = 2L$  ₹

## Cash Budget for 4 Months

S.No. Particulars	June	July	August	September
A. Opening Balance	45000	45500	45500	45000
B. Receipts				
1. Cash Sales (WN 1)	100000	98000	108000	122000
2. Receipt from Debtors (WN 2)	348000	380000	396000	412000
3. Dividend	25000	-	-	-
	<b>473000</b>	<b>478000</b>	<b>504000</b>	<b>534000</b>
C. Payments				
1. Payment to Creditors (WN 3)	200000	210000	260000	282000
2. Payment for Wages (WN 4)	162500	165000	165000	167500
3. Payment for overheads (WN 5)	40000	38000	37500	60800
4. Interest on Debentures (WN 6)	30000	-	-	-
5. Installment of Machinery (WN 7)	-	20000	20000	20000
6. Advance Income Tax	-	-	15000	-
	<b>432500</b>	<b>433000</b>	<b>497500</b>	<b>530300</b>
D. Balance (A + B - C)	<b>85500</b>	<b>90500</b>	<b>52000</b>	<b>48700</b>
- Investment in fixed deposit	(40000)	(45000)	(7000)	(3000)
<b>= closing Balance</b>	<b>45500</b>	<b>45500</b>	<b>45000</b>	<b>45700</b>

Note: June 2020 : 85500

$$\begin{array}{r}
 40500 \times \\
 45000 \\
 \hline
 \Rightarrow 40000 \\
 45500
 \end{array}$$

$$\begin{array}{r}
 85500 \\
 41000 \\
 \hline
 44500 \times
 \end{array}$$

Calculator trick

$$\begin{array}{r}
 85500 - 45000 \\
 = 40500
 \end{array}$$

Round off to previous 000'

## Working notes :

### 1. Cash Sales

	June	July	Aug.	Sep.
• Sales	500000	490000	540000	610000
• Cash Sales (20%)	100000	98000	108000	122000

### 2. Receipt from Debtors

Particulars	June	July	Aug.	Sep.
Apr	$420000 \times 40\%$ $= 168000$			
May	$450000 \times 40\%$ $= 180000$	$450000 \times 40\%$ $= 180000$		
June		$500000 \times 40\%$ $= 200000$	$500000 \times 40\%$ $= 200000$	
July			$490000 \times 40\%$ $= 196000$	$490000 \times 40\%$ $= 196000$
Aug.				$540000 \times 40\%$ $= 216000$
	<u>348000</u>	<u>360000</u>	<u>396000</u>	<u>412000</u>

### 3. Payment to creditors

Particulars	Apr	May	June	July	Aug.	Sep.
• Purchases	200000	210000	260000	282000	280000	310000
• Payment			200000	210000	260000	282000



#### 4. Payment of wages

Particulars	Apr.	May	June	July	Aug.	Sep.
Wages	160000	160000	165000	165000	165000	170000
1/2 of wages	80000	80000	82500	82500	82500	85000
Payment	80000	80000	82500	82500	82500	82500
			10000	82500	82500	82500
				162500	165000	167500

#### 5. Payment for O/s

Particulars	May	June	July	Aug.	Sep.
Overheads	40000	38000	37500	60800	52000
Payment		40000	38000	37500	60800

#### 6. Interest on Debentures

$$500000 \times 12\% \times \frac{6}{12} = 30000 \text{ ₹}$$

#### 7. Installment of Machinery

$$\frac{400000}{20} = 20000 \text{ ₹}$$

## Question 17

Strategy is partly proactive and partly reactive. Discuss

### Answer

A company's actual strategy is partly planned & partly reactive. It is typically a blend of:

- Proactive actions on the part of managers to improve the company's market position and financial performance.
- Reactions to unanticipated developments and fresh market conditions in the dynamic business environment.

Thus, a company uses both proactive and reactive strategies to cope up the uncertain business environment. Proactive strategy is planned strategy whereas reactive strategy is adaptive reaction to changing circumstances.

<b>Proactive Strategy Element</b>	Strategy being deliberate and proactive is the product of <u>management's analysis and strategic thinking</u> about the company's situation and its conclusions about how to position the company in the marketplace and tackle the task of competing for buyer's patronage.
<b>Reactive Strategy Element</b>	Things happen that cannot be fully anticipated or planned for. When market and competitive conditions take an unexpected turn or some aspect of a company's strategy hits a stone wall, some kind of <u>strategic reaction or adjustment</u> is required.

## Question 18

Briefly explain the limitations of Strategic Management.

### Answer

The presence of strategic management cannot counter all hindrances and always achieve success. There are limitations too, attached to strategic management, which are as follows :

#### Complex & Turbulent environment

The environment is highly complex and turbulent. It is difficult to understand the complex environment and exactly pinpoint how it will shape-up in future. The organisational estimate about its future shape may awfully go wrong and jeopardise all strategic plans.

For example, Two-Wheeler Electric Vehicles brands counted on strategic benefits they would have because of the huge push from the government for electric mobility. However, customers are getting reluctant to purchase EVs due to the safety concerns amid the frequent incidents of battery's catching fire. So, strategy cannot overcome a turbulent environment.

#### Time Consuming Process

Strategic management is a time-consuming process. Organisations spend a lot of time in preparing & communicating the strategies that may impede daily operations and negatively impact the routine business. Planning and strategizing are important but if too much time is spent on it, then it might not be as fruitful.

#### Costly Affair

Strategic management is a costly process. Strategic management adds a lot of expenses to an organization. Expert strategic planners need to be engaged, efforts are made for analysis of external and internal environments devise strategies and properly implement. These can be really costly for organisations with limited resources particularly when small and medium organisation create strategies to compete.

#### Difficult to estimate competitor's response

In a competitive scenario, where all organisations are trying to move strategically, it is difficult to clearly estimate the competitive responses to a firm's strategies. It is quite difficult to estimate the strategic planning of competitors because most of these decisions are taken within closed doors by the top management.

For example, Apple changed the market dynamics of the speaker industry by choosing to remove 3.5mm audio jack from iPhones. Now, to be relevant in the market, all major speaker brands had to put concentrated efforts to develop their own true wireless speakers (TWS) and compete with new entrants.

**Businesses opt for strategic management even with its limitation.**

Yes, businesses do opt for strategic management even after the limitations.

Agreed that Strategic Management is a time consuming and costly process, yet all organization's want to do

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*indulge into it. Because even though it has its limitations, its importance outweighs its shortcomings. A business cannot operate and succeed without proper strategic management.*



## Question 19

Describe the Macro Environment with specific focus on Economic Environment.

### Answer

Macro Environment	
<b>Meaning</b>	Macro environment has <u>broader dimensions</u> as it consists of <u>economic, socio-cultural, technological, political and legal</u> factors. The classification of the relevant environment into components or sectors helps an organization to cope with its complexity, comprehend the different influences operating, and relating the environmental changes to its strategic management process.
<b>Constituents</b>	The external environment of an organisation is made up of all the individuals, teams, organisations, agencies, and factors that it routinely interacts with when conducting business.
Economic Environment	
<b>Meaning</b>	The economic environment refers to the <u>overall economic situation around the business</u> and includes conditions at the regional, national and global levels. It encompasses conditions in the markets that have an effect on the supply of inputs and outputs of the business, their costs, and the dependability, quality, and availability.
<b>Factors</b>	The economic conditions of a nation refer to a set of economic factors that have great influence on business organizations and their operations. These include <u>gross domestic product, per capita income, markets for goods and services, availability of capital, foreign exchange reserve, growth of foreign trade, strength of capital market, interest rates, disposable income, unemployment, inflation, etc.</u> All these factors generally tell the state of the economy, whether it is doing good or is it performing poorly.
<b>Example</b>	<i>Higher interest rates are detrimental for the businesses with high debt. In the real estate market, they reduce the capability of the prospective buyers to avail loan and pay instalments, thus lower the demand.</i>
<b>Importance</b>	Economic environment <u>determines the strength and size of the market</u> . The purchasing power in an economy depends on current income, prices, savings, circulation of money, debt and credit availability. Income distribution pattern determine the business possibilities. The important point to consider is to find out the effect of economic prospect, growth and inflation on the operations of the business.

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## Question 20

What are the reasons of Internationalisation?

### Answer

<i>Need to grow</i>	<i>It is basic need of every organisation. Often finding opportunities in the other parts of the globe, organisations extend their businesses and globalise their operations.</i>
<i>Shrinking of time and distance</i>	<i>There is rapid shrinking of time and distance across the globe, because of faster communication, speedier transportation, growing financial flow of funds and rapid technological changes.</i>
<i>Inadequacy of domestic markets</i>	<i>It is being realised that the domestic markets are no longer adequate. The competition present domestically may not exist in some of the international markets.</i>
<i>Better &amp; cheap sources</i>	<i>There can be the need for reliable or cheaper source of raw-materials, cheap labour, etc. Many foreign businesses shift and set up some of their operations to take advantage of availability of vast pool of talent.</i>
<i>To reduce cost of transportation</i>	<i>Companies often set up overseas plants to reduce high transportation costs. It may be cheaper to produce near the market to reduce the time and costs involved in transportation.</i>
<i>Increased sales</i>	<i>When exporting organisations find foreign markets to open up or grow big, they may naturally look at overseas manufacturing plants and sales branches to generate higher sales and better cash flow.</i>
<i>Growth of service sector</i>	<i>The services sector has grown to constitute the largest single sector in the world economy.</i>
<i>Lowering of trade tariffs</i>	<i>The trade tariffs and custom barriers are getting lowered, resulting in increased flow of business. The trend is towards increased privatization of manufacturing and services sectors, less government interference in business decisions and more dependence on the value-added sector to gain marketplace competitiveness.</i>
<i>Globalization</i>	<i>Globalization has made companies in different countries to form strategic alliances to ward off economic and technological threats and leverage their respective comparative and competitive advantages.</i>

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## Question 27

Identify the primary activities under Value Chain Analysis.

Answer

### Primary Activities

The primary activities of the organization are grouped into five main areas: inbound logistics, operations, outbound logistics, marketing and sales, and service.

Activity	Explanation
<i>Inbound logistics</i>	<i>Inbound logistics are the activities concerned with receiving, storing and distributing the inputs to the product/service. This includes materials handling, stock control, transport etc. Like, transportation and warehousing.</i>
<i>Operations</i>	<i>Operations transform these inputs into the final product or service. Machining, packaging, assembly, testing, etc. convert raw materials in finished goods.</i>
<i>Outbound logistics</i>	<i>Outbound logistics collect, store and distribute the product to customers. For tangible products this would be warehousing, materials handling, transport, etc. In the case of services, it may be more concerned with arrangements for bringing customers to the service, if it is a fixed location (e.g. sports events).</i>
<i>Marketing and sales</i>	<i>Marketing and sales provide the means whereby consumers/ users are made aware of the product/service and are able to purchase it. This would include sales administration, advertising, selling and so on. In public services, communication networks which help users' access a particular service are often important.</i>
<i>Service</i>	<i>Service are all those activities, which enhance or maintain the value of a product/ service, such as installation, repair, training and spares.</i>

## Question 22

Explain the three main channels w.r.t Strategic Driver.

### Answer

<b>Sales Channel</b>	<p>These are the intermediaries involved in selling the product through each channel and ultimately to the end user. The key question is: Who needs to sell to whom for your product to be sold to your end user?</p> <p>For example, many fashion designers use agencies to sell their products to retail organisations, so that consumers can access them.</p>
<b>Product Channel</b>	<p>The product channel focuses on the series of intermediaries who physically handle the product on its path from its producer to the end user.</p> <p>For example, Australia Post, who delivers and distributes many online purchases between the seller and purchaser when using eBay and other online stores.</p>
<b>Service Channel</b>	<p>The service channel refers to the entities that provide necessary services to support the product, as it moves through the sales channel and after purchase by the end user. The service channel is an important consideration for products that are complex in terms of installation or customer assistance.</p> <p>For example, a Bosch dishwasher may be sold in a Bosch showroom, and then once sold it is installed by a Bosch contracted plumber.</p>



### Question 23

Elucidate the four specific criteria of sustainable competitive advantage.

#### Answer

##### Valuable

Valuable capabilities are the ones that allow the firm to exploit opportunities or avert the threats in its external environment. A firm creates value for customers by effectively using capabilities to exploit opportunities. Finance companies build a valuable competence in financial services. In addition, to make such competencies as financial services highly successful, requires placing the right people in the right jobs. Human capital is important in creating value for customers.

##### Rare

Core competencies are very rare capabilities and very few of the competitors possess this. Capabilities possessed by many rivals are unlikely to be sources of competitive advantage for any one of them. Competitive advantage results only when firms develop and exploit valuable capabilities that differ from those shared with competitors.

##### Costly to Imitate

Costly to imitate means such capabilities that competing firms are unable to develop easily. For example, Competitors are deeply aware about Apple's operating system's (iOS) successful model. However, to date, no competitor has been able to imitate Apple's capabilities. These are also protected through copyrights.

##### Non-Substitutable

Capabilities that do not have strategic equivalents are called non-substitutable capabilities. This final criterion for a capability to be a source of competitive advantage is that there must be no strategically equivalent valuable resources that are themselves either not rare or imitable. The strategic value of capabilities increases as they become more difficult to substitute.

For example, for years, firms tried to imitate Tata's low-cost strategy, but most have been unable to duplicate Tata's success. They did not realize that Tata has a unique culture and attracts some of the top talent in the industry. The culture and excellent human capital worked together in implementing Tata's strategy and are the basis for its competitive advantage.

Thus, we can say that only when a capability is valuable, rare, costly to imitate, and non-substitutable, it is a core competence and a source of competitive advantage. Over a time, core competencies must be supported. Core competencies are a source of competitive advantage only when they allow the firm to create value by exploiting opportunities in its external environment.

## Question 24

Give an explanation of four major characteristics of resources and capabilities w.r.t. sustainability of competitive advantage.

### Answer

#### Durability

The period over which a competitive advantage is sustained depends in part on the rate at which a firm's resources and capabilities deteriorate. In industries where the rate of product innovation is fast, product patents are quite likely to become obsolete. Similarly, capabilities which are the result of the management expertise of the CEO are also vulnerable to his or her retirement or departure. On the other hand, many consumer brand names have a highly durable appeal.

#### Transferability

Even if the resources and capabilities on which a competitive advantage is based are durable, it is likely to be eroded by competition from rivals. The ability of rivals to attack position of competitive advantage relies on their gaining access to the necessary resources and capabilities. The easier it is to transfer resources and capabilities between companies, the less sustainable will be the competitive advantage which is based on them.

#### Imitability

If resources and capabilities cannot be purchased by a would-be imitator, then they must be built from scratch. How easily and quickly can the competitors build the resources and capabilities on which a firm's competitive advantage is based? This is the true test of imitability. For example, in financial services, innovations lack legal protection and are easily copied. Here again the complexity of many organizational capabilities can provide a degree of competitive defense. Where capabilities require networks of organizational routines, whose effectiveness depends on the corporate culture, imitation is difficult.

#### Appropriability

Appropriability refers to the ability of firm's owners to appropriate the returns on its resource base. Even where resources and capabilities are capable of offering sustainable advantage, there is an issue as to who receives the returns on these resources. This means, that rewards are directed to from where the funds were invested, rather than creating an advantage with no actual reward to people to invested capital.

## Question 25

Describe in short Concentric and Conglomerate Diversification.

### Answer

#### Concentric Diversification

Concentric diversification takes place when the products are related. In this diversification, 'the new business that it diversifies into' is linked to the existing businesses through process, technology or marketing. The new product is a spin-off from the existing facilities and products/ processes. This means that in concentric diversification too, there are benefits of synergy with the current operations. The new product is only connected in a loop-like manner at one or more points in the firm's existing process/ technology/ product chain. *For example, a company producing clothes ventures into the manufacturing of shoes.*

Concentric diversification is generally understood in two directions,

1. Vertical integration and
2. Horizontal integration

#### Conglomerate Diversification

In conglomerate diversification, no linkages related to product, market or technology exist; the new businesses/ products are disjointed from the existing businesses/ products in every way; it is a totally unrelated diversification. In process/ technology/ function, there is no connection between the new products and the existing ones. Conglomerate diversification has no common thread at all with the firm's present position.

*For example, A cement manufacturer diversifies into the manufacture of steel and rubber products.*

## Question 26

*Why Divestment strategy is adopted?*

### Answer

*A divestment strategy may be adopted due to various reasons:*

- *A business that had been acquired proves to be a mismatch and cannot be integrated within the company.*
- *Persistent negative cash flows from a particular business create financial problems for the whole company, creating the need for divestment of that business.*
- *Severity of competition and the inability of a firm to cope with it may cause it to divest.*
- *It is not possible for the business to do Technological upgradation that is required for the business to survive, a preferable option would be to divest.*
- *A better alternative may be available for investment, causing a firm to divest a part of its unprofitable business.*
- *The management no longer wishes to remain in business either partly or wholly due to continuous losses and unviability.*
- *The management feels that business could be made viable by divesting some of the activities or liquidation of unprofitable activities.*

## Question 27

Explain four different types of products or SBU under BCG Matrix.

### Answer

<b>Stars</b>	Stars are products or SBUs that are <u>growing rapidly</u> . They also need heavy investment to maintain their position and finance their rapid growth potential. They represent best opportunities for expansion.
<b>Cash Cows</b>	Cash Cows are <u>low-growth, high market share businesses</u> or products. They generate cash and have low costs. They are established, successful, and need less investment to maintain their market share. In long run when the growth rate slows down, stars become cash cows.
<b>Question Marks</b>	Question Marks, sometimes called problem children or wildcats, are <u>low market share business in high-growth markets</u> . They require a lot of cash to hold their share. They need heavy investments with low potential to generate cash. Question marks if left unattended are capable of becoming cash traps. Since growth rate is high, increasing it should be relatively easier. It is for business organisations to turn them stars and then to cash cows when the growth rate reduces.
<b>Dogs</b>	Dogs are <u>low-growth, low-share businesses</u> and products. They may generate enough cash to maintain themselves, but do not have much future. Sometimes they may need cash to survive. Dogs should be minimised by means of divestment or liquidation.

## Question 28

Differentiate between Strategic and Operational Planning.

Answer

Strategic Planning	Operational Planning
<p>Senior management develops strategic plans for the <u>entire organisation</u> after evaluating the organization's strengths and weaknesses in light of potential possibilities and dangers in the outside world.</p>	<p>Operational plans on the other hand are <u>made at the middle and lower-level management.</u></p>
<ul style="list-style-type: none"><li>✓ Shapes the organisation and its resources.</li><li>✓ Assesses the impact of environmental variables.</li><li>✓ Takes a holistic view of the organisation.</li><li>✓ Develops overall objectives and strategies.</li><li>✓ Is concerned with the long-term success of the organisation.</li><li>✓ Is a senior management responsibility.</li></ul>	<ul style="list-style-type: none"><li>✓ Deals with current deployment of resources.</li><li>✓ Develops tactics rather than strategy.</li><li>✓ Projects current operations into the future.</li><li>✓ Makes modifications to the business functions but not fundamental changes.</li><li>✓ Is the responsibility of functional managers.</li></ul>

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## Question 29

Differentiate between Strategy Formulation and Implementation.

### Answer

Although linked, but strategy implementation is fundamentally different from strategy formulation. Strategy formulation concepts and tools do not differ greatly for small, large, for profit, or non-profit organizations. However, strategy implementation varies substantially among different types and sizes of organizations. Summarized are the key distinctions between strategy formulation and strategy implementation.

	Strategy Formulation	Strategy Implementation
1.	Strategy Formulation includes planning and decision-making involved in <u>developing organization's strategic goals and plans.</u>	Strategy Implementation involves all those means related to <u>executing the strategic plans.</u>
2.	In short, Strategy Formulation is <u>placing the forces before the action.</u>	In short, Strategy Implementation is <u>managing forces during the action.</u>
3.	An <u>Entrepreneurial Activity</u> based on strategic decision-making.	An <u>Administrative Task</u> based on strategic and operational decisions.
4.	Emphasizes on <u>effectiveness.</u>	Emphasizes on <u>efficiency.</u>
5.	Primarily an <u>intellectual and rational process.</u>	Primarily an <u>operational process.</u>
6.	Requires <u>co-ordination among few individuals at the top level.</u>	Requires <u>co-ordination among many individuals at the middle and lower levels.</u>
7.	Requires a great deal of <u>initiative, logical skills, conceptual intuitive and analytical skills.</u>	Requires specific <u>motivational and leadership traits.</u>
8.	Strategic Formulation precedes Strategy Implementation.	Strategy Implementation follows Strategy Formulation.

### Question 30

Explain the Hard and Soft elements of McKinsey 7S Model.

Answer

#### McKinsey 7S Model

The McKinsey 7S Model refers to a tool that analyzes a company's "organizational design". The goal of the model is to depict how effectiveness can be achieved in an organization through the interactions of hard and soft elements.

#### Hard Elements

The Hard elements are directly controlled by the management. The following elements are the hard elements in an organization :

<b>Strategy</b>	The direction of the organization, a blueprint to build on a core competency and achieve competitive advantage to drive margins and lead the industry.
<b>Structure</b>	Depending on the availability of resources and the degree of centralisation or decentralization that the management desires, it chooses from the available alternatives of organizational structures.
<b>Systems</b>	The development of daily tasks, operations and teams to execute the goals and objectives in the most efficient and effective manner.

#### Soft Elements

The Soft elements are difficult to define as they are more governed by the culture. But, these soft elements are equally important in determining an organization's success as well as growth in the industry. The following are the soft elements in this model :

<b>Shared Values</b>	The core values which get reflected within the organizational culture or influence the code of ethics of the management.
<b>Style</b>	This depicts the leadership style and how it influences the strategic decisions of the organisation.
<b>Staff</b>	The talent pool of the organisation.
<b>Skills</b>	The core competencies or the key skills of the employees play a vital role in defining the organizational success.

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