

SECTION – B : FINANCIAL MANAGEMENT

Financial Management: An Overview

- Mr. Mittal borrowed Rs. 10,00,000 from a bank on a one-year 16% term loan, with interest compounded quarterly. Determine the effective annual interest on the loan?
 - Assume that you have borrowed a 3-year loan of Rs. 10,000 at 9 per cent from your employer to buy a motorcycle. If your employer requires three equal end-of-year repayments, then calculate the annual instalment.

Working Capital Management

- Suyash Electronics has Rs. 50 lakhs in inventory and Rs. 20 lakhs in accounts receivable. Its average daily sales is Rs. 1,00,000. The company's payables deferral period is 30 days. You are required to calculate the length of the company's cash conversion period?
 - Altech Limited sells 20,000 wristwatches evenly throughout the year. The cost of carrying one unit in inventory for one year is Rs. 8, and the purchase order cost per order is Rs. 32. What is the economic order quantity?
 - Mansarovar Limited maintains a separate account for cash disbursement. Total disbursements are Rs. 2,62,500 per month. Administrative and transaction cost of transferring cash to disbursement account is Rs. 25 per transfer. Marketable securities yield is 7.5% per annum. Determine the optimum cash balance according to William J Baumol model.

Working Capital Management

- The following data relates to Ganesha Limited, a manufacturing company.

Turnover for the year	Rs. 15,00,000
Costs as percentages of sales	%
Direct Materials	30
Direct Labour	25
Variable Overheads	10
Fixed Overheads	15
Selling and Distribution Overheads	5

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

On an average:

- Debtors take 2.5 months before payment.
- Raw materials are in stock for three months.
- Work-in-progress represents two months worth of half produced goods

(d) Finished goods represent one month's production

(e) Credit is taken as follows:

(i) Direct materials	2 months
(ii) Direct labour	1 week
(iii) Variable overheads	1 month
(iv) Fixed overheads	1 month
(v) Selling and distribution	0.5 months

Work-in-progress and finished goods are valued at material, labour and variable expense cost. You are required to prepare a projected statement of working capital requirement of Ganesha Limited assuming that the labour force is paid for 50 working weeks a year.

Tools of Financial Analysis and Planning

4. Homecreators Limited
Consolidated Balance Sheets

Amounts in lakhs, except per share data

	February 2, 2009	February 2, 2008
	Rs.	Rs.
Assets		
Current Assets:		
Cash and Cash equivalents	2,188	2,477
Short-term investments, including current maturities of long-term investments	65	69
Receivables, net	1,072	920
Merchandise inventories	8,338	6,725
Other current assets	<u>254</u>	<u>170</u>
Total current assets	11,917	10,361
Property and equipment, at cost:		
Land	5,560	4,972
Buildings	9,197	7,698
Furniture, fixtures and equipment	4,074	3,403
Leasehold improvements	872	750
Construction in progress	724	1,049
Capital leases	<u>306</u>	<u>257</u>

	20,733	18,129
Less: Accumulated depreciation and amortization	<u>3,565</u>	<u>2,754</u>
Net property and equipment	17,168	15,375
Notes receivable	107	83
Cost in excess of the fair value of net assets acquired, net of accumulated amortisation of Rs. 50 at February 2, 2009, and Rs. 49 at February 3, 2008	575	419
Other assets	<u>244</u>	<u>156</u>
Total assets	<u>30,011</u>	<u>26,394</u>
Liabilities and Shareholders' Equity		
Current Liabilities:		
Accounts payable	4,560	3,436
Accrued salaries and related expenses	809	717
Sales taxes payable	307	348
Deferred revenue	998	851
Income taxes payable	227	211
Other accrued expenses	<u>1,134</u>	<u>938</u>
Total current liabilities	8,035	6,501
Long-term debt, excluding current installments	1,321	1,250
Other long-term liabilities	491	372
Deferred income taxes	<u>362</u>	<u>189</u>
Total liabilities	10,209	8,312
Shareholders' Equity		
Equity shares, par value Rs. 0.05; authorized: 10,000 shares, issued and outstanding 2,362 shares at February 3, 2009, and 2,346 shares at February 3, 2008	118	117

Paid-in capital	5,858	5,412
Retained earnings	15,971	12,799
Accumulated other comprehensive loss	(82)	(220)
Unearned compensation	(63)	(26)
Treasury stock, at cost, 69 shares at February 2, 2009	<u>(2,000)</u>	—
Total shareholders' equity	<u>19,802</u>	<u>18,082</u>
Total liabilities and shareholders' equity	<u>30,011</u>	<u>26,394</u>

Homecreators Limited
Consolidated Statements of Earnings
Year Ended

	February 2, 2009	February 3, 2008	January 28, 2007
Amounts in lakhs, except per share data			
Net Sales	Rs. 58,247	Rs. 53,553	Rs. 45,738
Cost of merchandise sold	<u>40,139</u>	<u>37,406</u>	<u>32,057</u>
Gross profit	18,108	16,147	13,681
Operating expenses:			
Selling and store operating	11,180	10,163	8,513
Pre-opening	96	117	142
General and administrative	<u>1,002</u>	<u>935</u>	<u>835</u>
Total operating expenses	12,278	11,215	9,490
Operating income	5,830	4,932	4,191
Interest income (expense):			
Interest and investment income	79	53	47
Interest expense	<u>(37)</u>	<u>(28)</u>	<u>(21)</u>
Interest, net	42	25	26
Earnings before provision for income taxes	5,872	4,957	4,217
Provision for income taxes	<u>2,208</u>	<u>1,913</u>	<u>1,636</u>
Net earnings	Rs. 3,664	Rs. 3,044	Rs. 2,581
Weighted-average equity shares	2,336	2,335	2,315
Basic earnings per share	Rs. 1.57	Rs. 1.30	Rs. 1.11

Diluted weighted-average equity shares	2,344	2,353	2,352
Diluted earnings per share	Rs. 1.56	Rs. 1.29	Rs. 1.10

You are required to calculate:

- Profitability Ratios
- Activity Ratios
- Liquidity Ratios
- Debt Utilisation Ratios
- Market Ratios.

Tools of Financial Analysis and Planning

5. Balance Sheets of Electrothermax Limited as on 31st March, 2008 and 2009 are as follows:

Liabilities	31.3.08	31.3.09	Assets	31.3.08	31.3.09
	Rs.	Rs.		Rs.	Rs.
Equity Share Capital	10,00,000	10,00,000	Goodwill	1,00,000	80,000
8% P.S. Capital	2,00,000	3,00,000	Land and Building	7,00,000	6,50,000
General Reserve	1,20,000	1,45,000	Plant and Machinery	6,00,000	6,60,000
Securities Premium	—	25,000	Investments		
Profit and Loss A/c	2,10,000	3,00,000	(non-trading)	2,40,000	2,20,000
11% Debentures	5,00,000	3,00,000	Stock	4,00,000	3,85,000
Creditors	1,85,000	2,15,000	Debtors	2,88,000	4,15,000
Provision for tax	80,000	1,05,000	Cash and Bank	88,000	93,000
Proposed Dividend	1,36,000	1,44,000	Prepaid Expenses	15,000	11,000
			Premium on Redemption of Debentures	—	20,000
	<u>24,31,000</u>	<u>25,34,000</u>		<u>24,31,000</u>	<u>25,34,000</u>

Additional Information:

1. Investments were sold during the year at a profit of Rs. 15,000.
2. During the year an old machine costing Rs. 80,000 was sold for Rs. 36,000. Its written down value was Rs. 45,000.
3. Depreciation charged on Plants and Machinery @ 20 per cent on the opening balance.
4. There was no purchase or sale of Land and Building.
5. Provision for tax made during the year was Rs. 96,000.
6. Preference shares were issued for consideration of cash during the year.

You are required to prepare:

- (i) Cash flow statement as per AS-3.
- (ii) Schedule of Changes in Working Capital.

Capital Budgeting and Project Planning

6. Sanghmani Enterprises is planning to introduce a new product with a project life of 8 years. The project is to be set up in Special Economic Zone (SEZ), qualifies for one time (at starting) tax free subsidy from the State Government of Rs. 25,00,000 on capital investment. Initial equipment cost will be Rs. 1.75 crores. Additional equipment costing Rs. 12,50,000 will be purchased at the end of the third year from the cash inflow of this year. At the end of 8 years, the original equipment will have no resale value, but additional equipment can be sold for Rs. 1,25,000. A working capital of Rs. 20,00,000 will be needed and it will be released at the end of eighth year. The project will be financed with sufficient amount of equity capital.

The sales volumes over eight years have been estimated as follows:

Year	1	2	3	4–5	6–8
Units	72,000	1,08,000	2,60,000	2,70,000	1,80,000

A sales price of Rs. 120 per unit is expected and variable expenses will amount to 60% of sales revenue. Fixed cash operating costs will amount Rs. 18,00,000 per year. The loss of any year will be set off from the profits of subsequent two years. The company is subject to 30 per cent tax rate and considers 12 per cent to be an appropriate after tax cost of capital for this project. The company follows straight line method of depreciation.

You are required to calculate the net present value of the project and advise the management.

Leverage

7. The following information for P.L. Forgings is given for your consideration:

	Rs. in lakhs
Earnings before interest and tax (EBIT)	2,240

Profit before tax (PBT)	640
Fixed cost	1,400

You are required to calculate the percentage change in earnings per share if sales increased by 7 per cent.

Capital Structure and Cost of Capital

8. Nayantara Limited has the following book-value capital structure as on March 31, 2009.

	Rs.
Equity Share Capital (2,00,000 shares)	40,00,000
11.5% Preference Shares	10,00,000
10% Debentures	<u>30,00,000</u>
	<u>80,00,000</u>

The equity share of the company sells for Rs. 20. It is expected that the company will pay next year a dividend of Rs. 2 per equity share, which is expected to grow at 5% per annum forever. Assume a 35% corporate tax rate.

You are required to calculate:

- (i) Weighted average cost of capital (WACC) of the company based on the existing capital structure.
 - (ii) New weighted average cost of capital, if the company raises an additional Rs. 20 lakhs debt by issuing 12% debentures. This would result in increasing the expected equity dividend to Rs. 2.40 and leave the growth rate unchanged, but the price of equity share will fall to Rs. 16 per share.
9. Differentiate between the following:
- (a) Compound Interest and Simple Interest
 - (b) Liquidity Ratios and Activity Ratios
 - (c) Financial Lease and Operating Lease
 - (d) Net Income Approach and Net Operating Income Approach to Capital Structure.
10. Write short notes on the following:
- (a) Time Value of Money
 - (b) Evolution of Financial Management
 - (c) External Commercial Borrowings (ECBs)
 - (d) Role of Chief Financial Officer (CFO).

SUGGESTED ANSWERS/HINTS

1. (a) Calculation of Effective Annual Interest Rate

Effective Interest Rate (EAR) is calculated as follows:

$$\text{EAR} = \left(1 + \frac{r}{m}\right)^m - 1$$

Where,

r = Stated interest rate

m = Compounding frequency

$$\begin{aligned} \text{EAR} &= \left(1 + \frac{0.16}{4}\right)^4 - 1 \\ &= 1.1699 - 1 = 0.1699 \end{aligned}$$

EAR = 16.99%.

- (b) Calculation of Annual Installment

$$10,000 = A \times \text{PVFA}_{3,0.09}$$

$$10,000 = A \times 2.531$$

$$A = \frac{10,000}{2.531} = \text{Rs. } 3,951$$

By paying Rs. 3,951 each year for three years, you shall completely pay-off your loan with 9 per cent interest. This can be observed from the loan-amortisation schedule given under:

Loan Amortisation Schedule

End of Year	Payment	Interest	Principal Repayment	Outstanding Balance
0				10,000
1	3,951	900	3,051	6,949
2	3,951	625	3,326	3,623
3	3,951	326	3,625*	0

*Rounding off error.

You pay Rs. 3,951 at the end of each year. At the end of the first year, Rs. 900 of this amount is interest (Rs. 10,000 × 0.09), and the remaining amount (Rs. 3,051) is applied towards the repayment of principal. The balance of loan at the beginning of the second year is Rs. 6,949 (Rs. 10,000 – Rs. 3,051). As for the first year,

calculations for interest and principal repayment can be made for the second and third years. At the end of the third year, the loan is completely paid-off.

2. (a) Calculation of the Conversion Cycle

Cash Conversion Period = Inventory Conversion Period + Receivables Collection Period – Payable Deferral Period

Inventory Conversion Period = Rs. 50,00,000/Rs. 100,000 = 50 days

Receivable Conversion Period = Rs. 20,00,000 / Rs. 100,000 = 20 days.

Therefore, Cash Conversion Cycle = 50 days + 20 days – 30 days = 40 days

(b) Calculation of Economic Order Quantity (EOQ)

$$EOQ = \sqrt{\frac{2 \times \text{Total Consumption per annum} \times \text{Ordering Cost per Order}}{\text{Carrying Cost per unit}}}$$

$$EOQ = \sqrt{\frac{(2)(32)(20,000)}{8}} = \sqrt{1,60,000} = 400 \text{ units}$$

(c) Determination of Optimal Cash Balance according to William J. Baumol Model

The formula for determining optimum cash balance is:

$$C = \sqrt{\frac{2U \times P}{S}}$$

Where,

C = Optimum cash balance

U = Annual (or monthly) cash disbursement

P = Fixed cost per transaction.

S = Opportunity cost of one rupee p.a. (or p.m.)

$$C = \sqrt{\frac{2 \times 2,62,500 \times 12 \times 25}{0.075}}$$

$$= \sqrt{\frac{15,75,00,000}{0.075}}$$

$$= \sqrt{2,10,00,00,000}$$

Optimum cash balance, C, = Rs. 45,826

3. (a) Calculation of Annual Costs Incurred

		Rs.
Direct Materials	30% of Rs. 15,00,000	4,50,000

Direct Labour	25% of Rs. 15,00,000	3,75,000
Variable Overheads	10% of Rs. 15,00,000	1,50,000
Fixed Overheads	15% of Rs. 15,00,000	2,25,000
Selling and Distribution	5% of Rs. 15,00,000	75,000

(b) Calculation of Average Value of Current Assets

		Rs.	Rs.
Raw Materials	$3/12 \times \text{Rs. } 4,50,000$		1,12,500
Work-in-progress			
Materials (50% complete)	$1/12 \times \text{Rs. } 4,50,000$	37,500	
Labour (50% complete)	$1/12 \times \text{Rs. } 3,75,000$	31,250	
Variable Overheads (50% complete)	$1/12 \times \text{Rs. } 1,50,000$	<u>12,500</u>	
			81,250
Finished Goods			
Materials	$1/12 \times \text{Rs. } 4,50,000$	37,500	
Labour	$1/12 \times \text{Rs. } 3,75,000$	31,250	
Variable Overheads	$1/12 \times \text{Rs. } 1,50,000$	12,500	
			81,250
Debtors	$2.5/12 \times \text{Rs. } 15,00,000$		<u>3,12,500</u>
			<u>5,87,500</u>

(c) Calculation of Average Value of Current Liabilities

Materials	$2/12 \times \text{Rs. } 4,50,000$	75,000	
Labour	$1/50 \times \text{Rs. } 3,75,000$	7,500	
Variable Overheads	$1/12 \times \text{Rs. } 1,50,000$	12,500	
Fixed Overheads	$1/12 \times \text{Rs. } 2,25,000$	18,750	
Selling and Distribution	$0.5/12 \times \text{Rs. } 75,000$	<u>3,125</u>	
			<u>1,16,875</u>
Working Capital Requirement (b) – (c)			<u>4,70,625</u>

Note: It has been assumed that all the direct materials are allocated to work-in-progress when production starts.

4. (a) Profitability Ratios

Profitability ratios measure how effective a firm is at generating profit from operations. They are some of the most closely watched and widely quoted financial ratios. Management attempts to maximize these ratios to maximize firm value.

- (i) Gross margin measures the percentage of each sale in rupees remaining after payment for the goods sold.

$$\text{Gross margin} = \frac{\text{Gross profit}}{\text{Net sales}} = \frac{\text{Rs. 18,108}}{\text{Rs. 58,247}} = 31.09\%.$$

Remember that gross profit is equal to net sales minus cost of goods sold.

- (ii) Profit margin finds the proportion of revenue that finds its way into profits. Profit margin is calculated as net income divided by net sales, as shown below:

$$\text{Profit margin} = \frac{\text{Net income after interest and taxes}}{\text{Net sales}} = \frac{\text{Rs. 3,664}}{\text{Rs. 58,247}} = 6.29\%.$$

- (iii) Operating profit margin measures the percentage of each sales in rupees that remains after the payment of all costs and expenses except for interest and taxes. This ratio is followed closely by analysts because it focuses on operating results. Operating profit is often referred to as earnings before interest and taxes or EBIT.

$$\text{Operating profit margin} = \frac{\text{Operating profit}}{\text{Net sales}} = \frac{\text{Rs. 5,830}}{\text{Rs. 58,247}} = 10.01\%.$$

- (iv) Return on assets (return on investment) measures the percentage return generated on the assets available (investment). This ratio may be calculated as:

$$\text{Return on assets} = \frac{\text{Net income after interest and taxes}}{\text{Average total assets}} = \frac{\text{Rs. 3,664}}{\text{Rs. 28,203}} = 12.99\%.$$

$$\begin{aligned} \text{Average total assets} &= \frac{(\text{Ending total assets} + \text{Beginning total assets})}{2} \\ &= \frac{(\text{Rs. 30,011} + \text{Rs. 26,394})}{2} \\ &= \text{Rs. 28,203.} \end{aligned}$$

- (v) Return on equity measures the percentage return generated to equity shareholders.

$$\text{Return on equity} = \frac{\text{Net income after interest and taxes}}{\text{Average shareholders' equity}} = \frac{\text{Rs. 3,664}}{\text{Rs. 18,942}} = 19.34\%.$$

$$\begin{aligned} \text{Average shareholders' equity (SE)} &= \frac{(\text{Ending SE} + \text{Beginning SE})}{2} \\ &= \frac{(\text{Rs. 19,802} + \text{Rs. 18,082})}{2} \\ &= \text{Rs. 18,942.} \end{aligned}$$

- (vi) The dividend payout ratio measures the dividend paid in relation to net earnings. If Homecreators Limited's dividend for the year was Rs. 0.22, the dividend payout is calculated as:

$$\begin{aligned} \text{Dividend payout ratio} &= \frac{\text{Cash dividend per share}}{\text{Earnings per share}} \\ &= \frac{\text{Rs. 0.22}}{\text{Rs. 1.57}} \\ &= 0.14 \text{ or } 14\%. \end{aligned}$$

(b) Asset Utilisation (Activity) Ratios

Asset utilization ratios measure the time it takes to convert various assets to sales or cash. Asset utilisation ratios are used to measure the efficiency with which assets are managed. For this reason, they are often called asset management ratios.

- (i) Receivables turnover measures the number of times per year the balance of receivables is collected. This is a very important measure of the efficiency with which management is managing accounts receivables.

$$\text{Receivables turnover} = \frac{\text{Net credit sales}}{\text{Average accounts receivable}}$$

This ratio cannot be computed for Homecreators Limited since the company does not break out the amount of credit sales.

- (ii) The average collection period measures the average number of days it takes to collect an account receivable. This ratio is also referred to as the number of days of receivable and the number of day's sales in receivables.

$$\text{Average collection period} = \frac{\text{Average accounts receivable}}{\text{Average sales per day}}$$

Again, this ratio cannot be calculated for Homecreators Limited because the company does not break out the amount of credit sales.

- (iii) Inventory turnover measures the efficiency with which a firm utilizes (manages) its inventory.

$$\text{Inventory turnover} = \frac{\text{Cost of goods sold}}{\text{Average inventory}} = \frac{\text{Rs. 40,139}}{\text{Rs. 7,532}} = 5.33 \text{ times}$$

$$\begin{aligned} \text{Average inventory} &= \frac{(\text{Ending inventory} + \text{Beginning inventory})}{2} \\ &= \frac{(\text{Rs. 8,338} + \text{Rs. 6,725})}{2} \\ &= \text{Rs. 7,532.} \end{aligned}$$

- (iv) A related measure is the number of days' sales in inventory.

$$\begin{aligned} \text{Number of days' sales in inventory} &= \frac{\text{Average inventory}}{\text{Cost of goods sold} / 365} \\ &= \frac{\text{Rs. 7,532}}{\text{Rs. 40,139} / 365} \\ &= 68.49 \text{ days.} \end{aligned}$$

- (v) Fixed asset turnover measures the efficiency with which the firm uses its fixed assets.

$$\begin{aligned} \text{Fixed asset turnover} &= \frac{\text{Sales}}{\text{Average net fixed assets}} = \frac{\text{Rs. 58,247}}{\text{Rs. 16,272}} = 3.58 \text{ times} \\ \text{Average fixed assets} &= \frac{(\text{Ending fixed assets} + \text{Beginning fixed assets})}{2} \\ &= \frac{(\text{Rs. 17,168} + \text{Rs. 15,375})}{2} \\ &= \text{Rs. 16,272.} \end{aligned}$$

- (vi) Total asset turnover measures the efficiency with which the firm uses its total assets.

$$\text{Total asset turnover} = \frac{\text{Sales}}{\text{Average total assets}} = \frac{\text{Rs. 58,247}}{\text{Rs. 28,203}} = 2.07 \text{ times}$$

(c) Liquidity Ratios

Liquidity ratios measure the firm's ability to meet its short-term obligations as they come due.

- (i) The current ratio is the most common measure of short-term liquidity. It is sometimes referred to as the working capital ratio because net working capital

is the difference between current assets and current liabilities.

$$\text{Current ratio} = \frac{\text{Current assets}}{\text{Current liabilities}} = \frac{\text{Rs. 11,917}}{\text{Rs. 8,035}} = 1.48$$

Where,

Current assets include cash and cash equivalents, net accounts receivable, marketable securities classified as current, inventories and prepaid expenses.

Current liabilities include accounts payable, short-term notes payable, current maturities of long-term debt, unearned revenue, and other accrued liabilities.

- (ii) The quick (acid) ratio provides a more conservative measure of short-term liquidity. It takes out inventory because in times of financial difficulty inventory may be saleable only at liquidation value.

$$\text{Quick ratio} = \frac{\text{Current assets} - \text{Inventory}}{\text{Current liabilities}} = \frac{\text{Rs. 11,917} - 8,338}{\text{Rs. 8,035}} = 0.45$$

(d) Debt Utilisation Ratios

Debt utilisation ratios measure the effectiveness with which management finances the assets of the firm. They are used to evaluate the financial leverage of the firm.

- (i) The debt to total assets measures the proportion of total assets financed with debt and, therefore, the extent of financial leverage.

$$\text{Debt to total assets} = \frac{\text{Total liabilities}}{\text{Total assets}} = \frac{\text{Rs. 10,209}}{\text{Rs. 30,011}} = 34.02\%$$

- (ii) The debt to equity ratios also measures the extent of the firm's financial leverage.

$$\text{Debt to equity ratio} = \frac{\text{Total liabilities}}{\text{Total equity}} = \frac{\text{Rs. 10,209}}{\text{Rs. 19,802}} = 51.56\%$$

- (iii) The times interest earned measures the firm's ability to make contractual interest payments.

$$\text{Times interest earned} = \frac{\text{Earnings before interest and taxes}}{\text{Interest expense}} = \frac{\text{Rs. 5,830}}{\text{Rs. 37}} = 157.57$$

(e) Market Ratios

Market ratios involve measures that consider the market value of the company's shares.

- (i) The price/earnings (PE) ratio is the most commonly quoted market measure. Assuming that Homecreators Limited's share price is Rs. 34.00, the price/earnings ratio would be computed as follows:

$$\text{Price / earnings} = \frac{\text{Market price per share}}{\text{Earnings per share}} = \frac{\text{Rs. 34}}{\text{Rs. 1.57}} = 21.66$$

- (ii) The market / book ratio provides another evaluation of how investors view the company's past and future performance. To calculate the ratio, the book value per share must first be calculated.

$$\begin{aligned} \text{Book value per share} &= \frac{\text{Total equity}}{\text{Number of shares outstanding}} \\ &= \frac{\text{Rs. 19,802}}{2,362} = \text{Rs. 8.38 per share} \end{aligned}$$

Again, assuming a Rs. 34 market price per share, the market / book ratio is calculated as follows:

$$\begin{aligned} \text{Market / Book ratio} &= \frac{\text{Market value per share}}{\text{Book value per share}} \\ &= \frac{\text{Rs. 34.00}}{\text{Rs. 8.38}} = 4.06. \end{aligned}$$

5. (i)

Cash Flow Statement
for the year ending 31st Mach, 2009

	Rs.	Rs.
A. Cash flow from Operating Activities		
Profit and Loss A/c as on 31.3.2009		3,00,000
Less: Profit and Loss A/c as on 31.3.2008		<u>2,10,000</u>
		90,000
Add: Transfer to General Reserve	25,000	
Provision for tax	96,000	
Proposed dividend	<u>1,44,000</u>	<u>2,65,000</u>
Profit before tax		3,55,000
Adjustment for depreciation:		
Land and Building	50,000	
Plant and Machinery	<u>1,20,000</u>	1,70,000
Profit on sale of investments		(15,000)
Loss on sale of plant and machinery		9,000
Goodwill written off		<u>20,000</u>
Operating profit before working capital changes		5,39,000
Adjustment for working capital changes:		

	Decrease in Prepaid Expenses	4,000
	Decrease in Stock	15,000
	Increase in Debtors	(1,27,000)
	Increase in Creditors	<u>30,000</u>
	Cash generated from operations	4,61,000
	Income tax paid	<u>(71,000)</u>
	Net Cash Inflow from Operating Activities (a)	<u>3,90,000</u>
B.	Cash flow from Investing Activities	
	Sale of investment	35,000
	Sale of plant and machinery	36,000
	Purchase of plant and machinery	<u>(2,25,000)</u>
	Net Cash Outflow in Investing Activities (b)	<u>(1,54,000)</u>
C.	Cash Flow from Financing Activities	
	Issue of preference shares	1,25,000
	[Rs. 1,00,000 + 25,000 (premium)]	
	Redemption of debentures at premium	(2,20,000)
	Dividend paid	<u>(1,36,000)</u>
	Net Cash Outflow from Financing Activities (c)	<u>(2,31,000)</u>
	Net increase in cash and cash equivalents during the year (a + b + c)	5,000
	Cash and cash equivalents at the beginning of the year	<u>88,000</u>
	Cash and cash equivalents at the end of the year	93,000

Working Notes:

1.	Provision for the Tax Account				
		Rs.		Rs.	
To	Bank (paid)	71,000	By	Balance b/d	80,000
To	Balance c/d	<u>1,05,000</u>	By	Profit and Loss A/c	<u>96,000</u>
		<u>1,76,000</u>			<u>1,76,000</u>
2.	Investment Account				
		Rs.		Rs.	
To	Balance b/d	2,40,000	By	Bank A/c (b/f)	35,000

To	Profit and Loss (profit on sale)	<u>15,000</u>	By	Balance c/d	<u>2,20,000</u>
		<u>2,55,000</u>			<u>2,55,000</u>

3. Plant and Machinery Account

	Rs.		Rs.		
To	Balance b/d	6,00,000	By	Bank (sale)	36,000
To	Bank A/c (Purchase b/f)	<u>2,25,000</u>	By	Profit and Loss A/c	9,000
				(Loss on sale)	
			By	Depreciation	1,20,000
			By	Balance c/d	<u>6,60,000</u>
		<u>8,25,000</u>			<u>8,25,000</u>

(ii) Schedule of Changes in Working Capital

Particulars	31 st March		Change in Working Capital	
	2008	2009	Increase	Decrease
	Rs.	Rs.	Rs.	Rs.
Current Assets:				
Stock	4,00,000	3,85,000	—	15,000
Debtors	2,88,000	4,15,000	1,27,000	—
Prepaid Expenses	15,000	11,000	—	4,000
Cash and Bank	<u>88,000</u>	<u>93,000</u>	5,000	—
Total (a)	<u>7,91,000</u>	<u>9,04,000</u>		
Current Liabilities:				
Creditors	<u>1,85,000</u>	<u>2,15,000</u>	—	30,000
Total (b)	<u>1,85,000</u>	<u>2,15,000</u>		
Working Capital (a – b)	6,06,000	6,89,000		
Increase in Working Capital	<u>83,000</u>	<u>—</u>	<u>—</u>	<u>83,000</u>
	<u>6,89,000</u>	<u>6,89,000</u>	<u>1,32,000</u>	<u>1,32,000</u>

6.

									(Rs. '000)
Year	Sales	VC	FC	Dep.	Profit	Tax	PAT	Dep.	Cash inflow
1	86.40	51.84	18	21.875	(5.315)	—	—	21.875	16.56
2	129.60	77.76	18	21.875	11.965 – (5.315) = 6.65	1.995	4.655	21.875	26.53
					After adjustment of loss				
3	312.00	187.20	18	21.875	84.925	25.4775	59.4475	21.875	81.3225
4–5	324.00	194.40	18	24.125	87.475	26.2425	61.2325	24.125	85.3575
6–8	216.00	129.60	18	24.125	44.275	13.2825	30.9925	24.125	55.1175

	Rs.
Cost of New Equipment	1,75,00,000
Less: Subsidy	25,00,000
Add: Working Capital	<u>20,00,000</u>
Outflow	<u>1,70,00,000</u>

Calculation of NPV			
Year	Cash inflows	PV factor at 12%	NPV
	(Rs.)		(Rs.)
1	16,56,000	0.893	14,78,808
2	26,53,000	0.797	21,14,441
3	81,32,250 – 12,50,000 = 68,82,250	0.712	49,00,162
4	85,35,750	0.636	54,28,737
5	85,35,750	0.567	48,39,770
6	55,11,750	0.507	27,94,457
7	55,11,750	0.452	24,91,311

8	55,11,750 + 20,00,000 + 1,25,000 = 76,36,750	0.404	30,85,247
	Net Present Value		<u>2,71,32,933</u>
	NPV		2,71,32,933
	Less: Out flow		<u>1,70,00,000</u>
	Saving		<u>1,01,32,933</u>

Advise: Since the project has a positive net present value (NPV), therefore, the management is advised to accept the project.

7. (a) Degree of Operating Leverage (DOL)

$$\begin{aligned} \text{DOL} &= \frac{\text{Contribution}}{\text{EBIT}} = \frac{\text{EBIT} + \text{Fixed Cost}}{\text{EBIT}} \\ &= \frac{2,240 + 1,400}{2,240} = 1.625 \end{aligned}$$

- (b) Degree of Financial Leverage (DFL)

$$\begin{aligned} \text{DFL} &= \frac{\text{EBIT}}{\text{PBT}} \\ &= \frac{2,240}{640} = 3.5 \end{aligned}$$

- (c) Degree of Combined Leverage (DCL)

$$\begin{aligned} \text{DCL} &= \text{DOL} \times \text{DFL} \\ &= 1.625 \times 3.5 \\ &= 5.6875 \end{aligned}$$

DCL can also be found out as:

$$\text{DCL} = \frac{\% \text{ Change in EPS}}{\% \text{ Change in Sales}}$$

$$5.6875 = \frac{\% \text{ Change in EPS}}{7}$$

$$\begin{aligned} \% \text{ Change in EPS} &= 7 \times 5.6875 \\ &= 39.8125\% \end{aligned}$$

% Change in Earnings per share = 39.8125 %

8. (i) Weighted Average Cost of Capital of the Company
(Based on Existing Capital Structure)

	After tax cost	Weights (Refer to working note 4)	Weighted cost
	(a)	(b)	(a) × (b)
Equity Share Capital Cost (Refer to working note 1)	0.15	0.50	0.075
Cost of Preference Share Capital @11.5% (Refer to working note 2)	0.115	0.125	0.014375
Cost of Debentures (Refer to working note 3)	0.065	0.375	0.02437
Weighted Average Cost of Capital (WACC)			<u>11.375%</u>

Working Notes:

1. Cost of Equity Capital

$$K_e = \frac{\text{Dividend}}{\text{Current market price of share}} + g$$

$$= \frac{\text{Rs. 2}}{\text{Rs. 20}} + 5\% = 15\% \text{ or } 0.15$$

2. Cost of Preference Share Capital

$$K_p = \frac{\text{Annual preference share dividend}}{\text{Net proceeds in the issue of preference share}}$$

$$= \frac{\text{Rs. 1,15,000}}{\text{Rs. 10,00,000}} = 0.115$$

3. Cost of Debentures

$$K_d = \frac{1}{\text{Net proceeds}} (\text{Interest} - \text{Tax})$$

$$= \frac{1}{\text{Rs. 30,00,000}} (\text{Rs. 3,00,000} - \text{Rs. 1,05,000})$$

$$= 0.065$$

4. Weights of Equity Share Capital, Preference Share Capital and Debentures in Total Investment of Rs.80,00,000:

$$\begin{aligned} \text{Weight of Equity Share Capital} &= \frac{\text{Total Equity Share Capital}}{\text{Total Investments}} \\ &= \frac{\text{Rs.40,00,000}}{\text{Rs.80,00,000}} = 0.50 \end{aligned}$$

$$\begin{aligned} \text{Weight of Preference Share Capital} &= \frac{\text{Total Preference Share Capital}}{\text{Total Investments}} \\ &= \frac{\text{Rs.10,00,000}}{\text{Rs.80,00,000}} = 0.125 \end{aligned}$$

$$\begin{aligned} \text{Weight of Debentures} &= \frac{\text{Total Debentures}}{\text{Total Investments}} \\ &= \frac{\text{Rs.30,00,000}}{\text{Rs.80,00,000}} = 0.375 \end{aligned}$$

- (ii) New Weighted Average Cost of Capital of the Company
(Based on New Capital Structure)

	After tax cost	Weights (Refer to working note 4)	Weighted Cost
	(a)	(b)	(a) × (b)
Cost of Equity Share Capital (Refer to working note 2)	0.20	0.40	0.080
Cost of Preference Share	0.115	0.10	0.0115
Cost of Debentures @ 10%	0.065	0.30	0.0195
Cost of Debentures @12% (Refer to working note 3)	0.078	0.20	<u>0.0156</u>
Weighted Average Cost of Capital			<u>12.66%</u>

Working Notes:

1. Weights of Equity Share Capital, Preference Share and Debentures in Total Investment of Rs.100,00,000

$$\text{Weight of Equity Share Capital} = \frac{\text{Rs.40,00,000}}{\text{Rs.1,00,00,000}} = 0.4$$

$$\text{Weight of Preference Share Capital} = \frac{\text{Rs.10,00,000}}{\text{Rs.1,00,00,000}} = 0.1$$

$$\text{Weight of Debentures @10\%} = \frac{\text{Rs.30,00,000}}{\text{Rs.1,00,00,000}} = 0.30$$

$$\text{Weight of Debentures @12\%} = \frac{\text{Rs.20,00,000}}{\text{Rs.1,00,00,000}} = 0.20$$

2. Cost of Equity Capital

$$K_e = \frac{\text{Dividend}}{\text{Current Market Price of Share}} + g$$

$$= \frac{\text{Rs.2.40}}{\text{Rs.16}} + 5\% = 20\%$$

3. Cost of Debentures (@12%)

$$K_d = \frac{1}{\text{Net proceeds}} (\text{Interest} - \text{Tax})$$

$$= \frac{1}{\text{Rs.20,00,000}} (\text{Rs.2,40,000} - \text{Rs.84,000})$$

$$= 0.078$$

9. (a) Compound Interest and Simple Interest

Compound interest is the interest that accrues on a deposit or investment that uses compounding which basically means that interest is paid both on previously earned interest and as well as on the principal. In other words, interest due at the end of unit payment period is added to the principal and interest on the next payment period is computed on the new principal. Naturally, the amount calculated on the basis of compound interest rate is higher than when calculated with the simple rate. The time interval between successive additions of interests is known as conversion (or payment) period.

Whereas, on the other hand, Simple interest is defined as "Interest calculated as a simple percentage of the original principal amount". The simple interest 'I' on a principal 'P' borrowed at the rate of 'i' per annum for a period of 't' years is given by:

$$I = Pit$$

It must be noted that i is represented in decimals and is part of one unit. If the rate of interest is in percent, i can be calculated by dividing it by 100.

(b) Liquidity Ratios and Activity Ratios

Liquidity or short-term solvency means ability of the business to pay its short-term liabilities. Inability to pay-off short-term liabilities affects its credibility as well as its credit rating. Continuous default on the part of the business leads to commercial bankruptcy. Eventually such commercial bankruptcy may lead to its sickness and dissolution. Short-term lenders and creditors of a business are very much interested to know its state of liquidity because of their financial stake. Therefore, liquidity ratios provide information about a company's ability to meet its short-term financial obligations.

Whereas, on the other hand, the activity ratios, also called the Turnover ratios or Performance ratios, are employed to evaluate the efficiency with which the firm manages and utilises its assets. These ratios usually indicate the frequency of sales with respect to its assets. These assets may be capital assets or working capital or average inventory. These ratios are usually calculated with reference to sales/cost of goods sold and are expressed in terms of rate or times.

(c) Financial Lease and Operating Lease

In Financial Lease, the risk and reward incident to ownership are passed on to the lessee. The lessor only remains the legal owner of the asset. The lessee bears the risk of obsolescence. The lessor is interested in his rentals and not in the asset. He must get his principal back along with interest. Therefore, the lease is non-cancellable by either party. The lessor enters into the transaction only as a financier. He does not bear the cost of repairs, maintenance or operations. The lease is usually fully paid out, that is, the single lease repays the cost of the asset together with the interest.

Whereas, on the other hand, in Operating Lease, the lessee is only provided the use of the asset for a certain time. Risk incident to ownership belongs wholly to the lessor. As the lessor does not have difficulty in leasing the same asset to other willing lessees, the lease is kept cancellable by the lessor. Usually, the lessor bears the cost of repairs, maintenance or operations. The lease is usually non-payout, since the lessor expects to lease the same asset over and over again to several users.

(d) Net Income Approach and Net Operating Income Approach to Capital Structure

According to Net Income Approach (NI), capital structure decision is relevant to the value of the firm. An increase in financial leverage will lead to decline in the weighted average cost of capital, while the value of the firm as well as market price of ordinary share will increase. Conversely, a decrease in the leverage will cause an increase in the overall cost of capital and a consequent decline in the value as well as market price of equity shares.

Under, NI approach, the value of the firm will be maximum at a point where weighted average cost of capital is minimum. Thus, the theory suggests total or

maximum possible debt financing for minimising the cost of capital. The overall cost of capital under this approach is :

$$\text{Overall cost of capital} = \frac{\text{EBIT}}{\text{Value of the firm}}$$

Thus according to this approach, the firm can increase its total value by decreasing its overall cost of capital through increasing the degree of leverage. The significant conclusion of this approach is that it pleads for the firm to employ as much debt as possible to maximise its value.

Whereas, on the other hand, according to Net Operating Income Approach (NOI), capital structure decisions of the firm are irrelevant. Any change in the leverage will not lead to any change in the total value of the firm and the market price of shares, as the overall cost of capital is independent of the degree of leverage. As a result, the division between debt and equity is irrelevant. An increase in the use of debt which is apparently cheaper is offset by an increase in the equity capitalisation rate. This happens because equity investors seek higher compensation as they are opposed to greater risk due to the existence of fixed return securities in the capital structure.

10. (a) Time Value of Money

The time value of money (TVM) is one of the basic concepts of finance. If money is deposited in a bank account, it will receive interest. Because of this, we prefer to receive money today rather than the same amount in the future. Money we receive today is more valuable to us than money received in the future by the amount of interest we can earn with the money. This is referred to as the time value of money.

The term time value of money can be defined as "The value derived from the use of money over time as a result of investment and reinvestment. This term may refer to either present value or future value calculations. The present value is the value today of an amount that would exist in the future with a stated investment rate called the discount rate." For example, with a 10% annual discount rate, the present value today of Rs. 110 one year from now is Rs. 100.

(b) Evolution of Financial Management

Financial Management evolved gradually over the past 50 years. The evolution of financial management is divided into three phases. Financial Management evolved as a separate field of study at the beginning of the century. The three stages of its evolution are:

- (i) The Traditional Phase: During this phase, financial management was considered necessary only during occasional events such as takeovers, mergers, expansion, liquidation, etc. Also, when taking financial decisions in the organisation, the needs of outsiders (investment bankers, people who lend money to the business and other such people) to the business was kept in mind.

- (ii) The Transitional Phase: During this phase, the day-to-day problems that financial managers faced were given importance. The general problems related to funds analysis, planning and control were given more attention in this phase.
- (iii) The Modern Phase: Modern phase is still going on. The scope of financial management has greatly increased now. It is important to carry out financial analysis for a company. This analysis helps in decision-making. During this phase, many theories have been developed regarding efficient markets, capital budgeting, option pricing, valuation models and also in several other important fields in financial management.

(c) External Commercial Borrowings (ECBs)

External Commercial Borrowings (ECBs) refer to commercial loans (in the form of bank loans, buyers credit, suppliers credit, securitised instruments (e.g. floating rate notes and fixed rate bonds) availed from non-resident lenders with minimum average maturity of 3 years. Borrowers can raise ECBs through internationally recognised sources like (i) international banks, (ii) international capital markets, (iii) multilateral financial institutions such as the IFC, ADB etc, (iv) export credit agencies, (v) suppliers of equipment, (vi) foreign collaborators and (vii) foreign equity holders.

External Commercial Borrowings can be accessed under two routes viz (i) Automatic route and (ii) Approval route. Under the Automatic route there is no need to take the RBI/Government approval whereas such approval is necessary under the Approval route. Company's registered under the Companies Act and NGOs engaged in micro finance activities are eligible for the Automatic Route whereas Financial Institutions and Banks dealing exclusively in infrastructure or export finance and the ones which had participated in the textile and steel sector restructuring packages as approved by the government are required to take the Approval Route.

(d) Role of Chief Financial Officer (CFO)

The chief financial officer of an organisation plays an important role in the company's goals, policies, and financial success. His responsibilities include:

- (i) Financial analysis and planning: Determining the proper amount of funds to employ in the firm, i.e. designating the size of the firm and its rate of growth.
- (ii) Investment decisions: The efficient allocation of funds to specific assets.
- (iii) Financing and capital structure decisions: Raising funds on favourable terms as possible, i.e., determining the composition of liabilities.
- (iv) Management of financial resources (such as working capital).
- (v) Risk management: Protecting assets.