HOMEWORK SECTION

CHAPTER - 1

ACCOUNTING RATIOS

Q. 1. Using the following information, complete the Balance Sheet given below :

(i)	Total debt to net worth	1 : 2
(ii)	Total assets turnover	2
(iii)	Gross profit on sales	30%
(iv)	Average collection period (Assume 360 days in a year)	40 days
(v)	Inventory turnover ratio based on cost of goods sold and year - end inventory	3
(vi)	Acid Test Ratio	0.75

Balance Sheet as on March 31, 2014

Liabilities	**₹**	**Assets**	**₹**
Equity Shares Capital	4,00,000	Plant and Machinery	----
Reserves and Surplus	6,00,000	and other Fixed Assets	
Total Debt :		Current Assets :	
Current Liabilities	----	Inventory	----
		Debtors	----
		Cash	----

Q. 2. The following figures and ratios are related to a company :

(i)	Sales for the year (all credit)	₹ 30,00,000
(ii)	Gross Profit Ratio	25 percent
(iii)	Fixed Assets Turnover (basis on cost of goods sold)	1.5
(iv)	Stock Turnover (basis on cost of goods sold)	6
(v)	Liquid Ratio	1 : 1
(vi)	Current Ratio	1.5 : 1
(vii)	Debtors Collection Period	2 months
(viii)	Reserve and Surplus to Share Capital	0.6 : 1
(ix)	Capital Gearing Ratio	0.5 : 1
(x)	Fixed Assets to Net Worth	1.20 : 1

You are required to prepare :

(a) Balance Sheet of the company on the basis of above details.

(b) The Statement showing working capital requirement, if the company wants to make a provision for contingencies @ 10 percent of net working capital including such provision.

Q. 3. The following accounting information and financial ratios of M Limited relate to the year ended 31st March, 2014 :

Inventory Turnover Ratio	6 Times
Creditors Turnover Ratio	10 Times
Debtors Turnover Ratio	8 Times
Current Ratio	2.4
Gross Profit Ratio	25%

Total sales ₹ 30,00,000; cash sales 25% of credit sales; cash purchases ₹ 2,30,000; working capital ₹ 2,80,000; closing inventory is ₹ 80,000 more than opening inventory. You are required to calculate:

(i) Average Inventory
(ii) Purchases
(iii) Average Debtors
(iv) Average Creditors
(v) Average Payment Period
(vi) Average Collection Period
(vii) Current Assets
(viii) Current Liabilities

Q. 4. The financial statements of a company contain the following information for the year ending 31st March, 2014:

Particulars	₹
Cash	1,60,000
Sundry Debtors	4,00,000
Short-term Investment	3,20,000
Stock	21,60,000
Prepaid Expenses	10,000
Total Current Assets	30,50,000
Current Liabilities	10,00,000
10% Debentures	16,00,000
Equity Share Capital	20,00,000
Retained Earnings	8,00,000
Statement of Profit for the year ended 31st March, 2014	
Sales (20% cash sales)	40,00,000
Less: Cost of goods sold	28,00,000
Profit before Interest & Tax	12,00,000
Less: Interest	1,60,000
Profit before tax	10,40,000
Less: Tax @ 30%	3,12,000
Profit After Tax	7,28,000

You are required to calculate:

(i) Quick Ratio
(ii) Debt-equity Ratio
(iii) Return on Capital Employed, and
(iv) Average collection period (Assuming 360 days in a year).

Q. 5. MN Limited gives you the following information related for the year ending 31st March, 2009:

(1)	Current Ratio	2.5 : 1
(2)	Debt-Equity Ratio	1 : 1.5
(3)	Return on Total Assets	15%
(4)	Total Assets Turnover Ratio	2
(5)	Gross Profit Ratio	20%
(6)	Stock Turnover Ratio	7
(7)	Current Market Price per Equity Share	₹ 16
(8)	Net Working Capital	₹ 4,50,000
(9)	Fixed Assets	₹ 10,00,000
(10)	60,000 Equity Shares of	₹ 10 each
(11)	20,000, 9% Preference Shares of	₹ 10 each
(12)	Opening Stock	₹ 3,80,000

You are required to calculate:

(i) Quick Ratio

(ii) Fixed Assets Turnover Ratio

(iii) Proprietary Ratio

(iv) Earnings per Share

(v) Price-Earning Ratio.

Q. 6. JKL Limited has the following Balance Sheets as on March 31, 2006 and March 31, 2005:

Balance Sheet

	₹ in lakhs	
	March 31, 2006	**March 31, 2005**
Sources of Funds:		
Shareholders Funds	2,377	1,472
Loan Funds	3,570	3,083
	5,947	**4,555**
Applications of Funds:		
Fixed Assets	3,466	2,900
Cash and bank	489	470
Debtors	1,495	1,168
Stock	2,867	2,407
Other Current Assets	1,567	1,404
Less: Current Liabilities	(3,937)	(3,794)
	5,947	**4,555**

The Income Statement of the JKL Ltd. for the year ended is as follows:

	₹ in lakhs	
	March 31, 2006	March 31, 2005
Sales	22,165	13,882
Less: Cost of Goods sold	20,860	12,544
Gross Profit	1,305	1,338
Less: Selling, General and Administrative expenses	1,135	752
Earnings before Interest and Tax (EBIT)	170	586
Interest Expense	113	105
Profits before Tax	57	481
Tax	23	192
Profits after Tax (PAT)	34	289

Required:

(i) Calculate for the year 2005-06:
- (a) Inventory turnover ratio
- (b) Financial Leverage
- (c) Return on Investment (ROI)
- (d) Return on Equity (ROE)
- (e) Average Collection period.

(ii) Give a brief comment on the Financial Position of JKL Limited.

Q. 7. Ganpati 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:

(a) Calculate the operating expenses for the year ended 31st March, 2013.

(b) 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	

CHAPTER - 2

LEVERAGES

Q. 1. Complete the following financial statement from the information given below :

Particulars	Company L (in ₹)	Company M (in ₹)
Sales		
Less : Variable Cost		
Contribution		
Less : Fixed Cost		
Profit before Interest and Tax		
Less : Interest		
Profit before Tax		
Less : Tax at 50%		
Profit after Tax	25,000	40,000
Operating Leverage	2 times	3 times
Combined Leverage	4 times	3 times
Variable Cost Ratio	60% of Sales	70% of Sales

Q. 2. Calculate the degree of operating leverage, degree of financial leverage and the degree of combined leverage for the following firms and interpret the results :

	P	Q	R
Output (units)	2,50,000	1,25,000	7,50,000
Fixed Cost (₹)	5,00,000	2,50,000	10,00,000
Unit Variable Cost (₹)	5	2	7.50
Unit Selling Price (₹)	7.50	7	10.0
Interest Expenses (₹)	75,000	25,000	----

Q. 3. The following data relate to RT Ltd. :

	₹
Earnings before interest and tax (EBIT)	10,00,000
Fixed Cost	20,00,000
Earnings Before Tax (EBT)	8,00,000

Required : Calculate combined leverage.

Q. 4. The following details of RST Limited for the year ended 31st March, 2014 are given below:

Operating Leverage	1.4
Combined Leverage	2.8
Fixed Cost (Excluding Interest)	₹ 2.04 lakhs
Sales	₹ 30.00 lakhs
12% Debentures of ₹ 100 each	₹ 21.25 lakhs
Equity Shares Capital of ₹ 10 each	₹ 17.00 lakhs
Income tax Rate	30 percent

Required :

(i) Calculate Financial Leverage.

(ii) Calculate P/V ratio and Earning per Share (EPS)

(iii) If the company belongs to an industry, whose assets turnover is 1.5, does it have a high or low assets leverage?

(iv) At what level of sales the Earning before Tax (EBT) of the company will be equal to zero?

Q. 5. X Ltd. details are as under :

Sales (@ 100 per unit)	₹ 24,00,000
Variable Cost	50%
Fixed Cost	₹ 10,00,000

It has borrowed ₹ 10,00,000 @ 10% p.a. and its equity share capital is ₹ 10,00,000 (₹ 100 each). The company is in a tax bracket of 50%.

Calculate :

(a) Operating Leverage

(b) Financial Leverage

(c) Combined Leverage

(d) Return on Equity

(e) If the sales increases by ₹ 6,00,000 ; what will the new EBIT?

Q. 6. Betatronics Ltd. has the following balance sheet and income statement information :

Balance Sheet as on March 31st

Liabilities	(₹)	Assets	(₹)
Equity Capital (₹10 per share)	8,00,000	Net Fixed Assets	10,00,000
10% Debt	6,00,000	Current Assets	9,00,000
Retained Earnings	3,50,000		
Current Liabilities	1,50,000		
	19,00,000		**19,00,000**

Income Statement for the year ending March 31st

	(₹)
Sales	3,40,000
Operating expenses (including ₹ 60,000 depreciation)	1,20,000
EBIT	2,20,000
Less : Interest	60,000
Earnings before Tax	1,60,000
Less : Taxes	56,000
Net Earnings (EAT)	1,04,000

(a) Determine the degree of operating, financial and combined leverages at the current sales level, if all operating expenses, other than depreciation, are variable costs.

(b) If total assets remain at the same level, but sales (i) increase by 20 percent and (ii) decrease by 20 percent, what will be the earnings per share at the new sales level?

CAPITAL STRUCTURE

Q. 1. Goodluck Charm Ltd., a profit making company, has a paid-up capital of ₹100 lakhs consisting of 10 lakhs shares of ₹ 10 each. Currently, it is earning an annual pre-tax profit of ₹ 60 lakhs. The company's shares are listed and are quoted in the range of ₹ 50 to ₹ 80. The management wants to diversify production and has approved a project which will cost ₹ 50 lakhs and which is expected to yield a pre-tax income of ₹ 40 lakhs per annum. To raise this additional capital, the following options are under consideration of the management:

(a) To issue equity capital for the entire additional amount. It is expected that the new shares (face value of ₹10) can be sold at a premium of ₹ 15.

(b) To issue 16% non-convertible debentures of ₹ 100 each for the entire amount.

(c) To issue equity capital for ₹ 25 lakhs (face value of ₹ 10) and 16% non-convertible debentures for the balance amount. In this case, the company can issue shares at a premium of ₹40 each.

You are required to advise the management as to how the additional capital can be raised,keeping in mind that the management wants to maximise the earnings per share. The company is paying income, tax at 50%.

Q. 2. Three financing plans are being considered by ABC Ltd. which requires ₹ 10,00,000 for construction of a new plant. It wants to maximize the EPS and the current market price of the share is 30. It has a tax rate of 50% and debt financing can be arranged as follows : Up to ₹ 1,00,000 @ 10%; from ₹ 1,00,000 to ₹ 5,00,000 @ 14%; and over ₹ 5,00,000 @ 18%. The three financing plans and the corresponding EBIT are as follows:

Plan I: ₹ 1,00,000 debt; expected EBIT ₹ 2,50,000
Plan II : ₹ 3,00,000 debt; expected EBIT ₹ 3,50,000
Plan III' ₹ 6,00,000 debt; expected EBIT ₹ 5,00,000

Find out the EPS for all the three plans and suggest which plan is better from the point of view of the cornpany.

Q. 3. Delta Ltd. currently has an equity share capital of ₹ 10,00,000 consisting of 1,00,000 equity share of ₹10 each. The company is going through a major expansion plan requiring to raise funds to the tune of ₹ 6,00,000. To finance he expansion the management has following plans:

Plan-I : Issue 60,000 Equity shares of ₹ 10 each.

Plan-II : Issue 40,000 Equity shares of ₹ 10 each and the balance through long-term borrowing at 12% interest p.a.

Plan-III : Issue 30,000 Equity shares of ₹ 10 each and 3,000 ₹ 100, 9% Debentures.

Plan-IV : Issue 30,000 Equity shares of ₹10 each and the balance through 6% preference shares.

The EBIT of the company is expected to be ₹ 4,00,000 p.a. assume corporate tax rate of 40%.

Required:

(i) Calculate EPS in each of the above plans.

(ii) Ascertain the degree of financial leverage in each plan

Q. 4. A new project is under consideration in Zip Ltd., which requires a capital investment of ₹ 4.50 crore. Interest on term loan is 12% and Corporate Tax Rate is 50%. If the Debt Equity ratio insisted by the financing agencies is 2 :1, calculate the profit of indifference of the project.)

Q. 5. Calculate the level of earnings before interest and tax (EBIT) at which the EPS indifference point between the following financing alternatives will occur:

(i) Equity share capital of ₹ 6,00,000 and 12% debentures of ₹ 4,00,000

OR

(ii) Equity share capita! of ₹ 4,00,000, 14% preference share capital of ₹ 2,00,000 and 12% debentures of ₹ 4,00,000.

Assume the corporate tax rate is 35% and par value of equity share is ₹ 10 in each case.

Q. 6. A Company needs ₹ 31,25,000 for the construction of new plant. The following 3 plans are feasible: The Company may issued 3,12,500 equity shares at ₹ 10 per share.

II The Company may issue 1,56,250 ordinary equity shares at ₹ 10 per share and 15,625 debentures of ₹ 100 denomination bearing a 8% rate of interest.

III The Company may issue 1,56,250 equity shares at ₹10 per share and 15,625 preference shares at ₹ 100 per share bearing a 8% rate of dividend.

(i) If the company's earnings before interest and taxes are ₹ 62,500, ₹ 1,25,000, ₹ 2,50,000, ₹ 3,75,000 and ₹6,25,000, what are the earnings per share under each of three financial plans? Assume a Corporate Income tax rate of 40%.

(ii) Which alternative would you recommend and why?

(iii) Determine the EBIT-EPS indifference points by formulae between Financing Plan I and Plan II, Plan I and Plan III.

Q. 7. PCB Corporation has plans for expansion which calls for 50% increase in assets. The alternatives before the corporation are issue of equity shares or 14% debt. The balance sheet of the firm and the income statement for the year ending Dec.31, are as follows:

Balance sheet as on Dec. 31

Liabilities	Amount (₹)	Assets	Amount (₹)
Equity share capital	100,00,000	Total assets	200,00,000
(10,00,000 shares)			
Genera] reserves	75,00,000		
12% debentures	25,00,000		
	200,00,000		**200,00,000**

Income Statement for the year ending Dec. 31

Sales	₹ 750,00,000
-Total Operating Cost	675,00,000
EBIT	75,00,000
Interest on Debenture	3,00,000
Profit before Tax	72,00,000
-Taxes	36,00,000
Profit after Tax (PAT)	36,00,000
Number of shares	10,00,000
EPS (₹)	3.60
P/E Patio	5
Market price (₹)	18.00

If the corporation finances the expansion with debt, the PE is expected to be 4 times. However, if equity shares are issued, then the issue is expected to be made at 25% premium. Find out:

1. If the EBIT is 10%. of sales, calculate EPS at the sales level of ₹ 4 crores, ₹ 8 crores and ₹10 crores.
2. After expansion, determine at which level of EBIT, the EPS would be same under both financing plans.
3. Using PE ratio, calculate the market price of the share at each sales level and for both the financing plans.

Q. 8. 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 ore 80,000 and the retained earnings amount to 112,00,000. The company proposes to take up an expansion scheme tor 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:

(i) Compute the Earnings Per Share (EPS), if:
- the additional funds were raised as debt
- the additional funds were raised by issue of equity shares,

(ii) Advise the company as to which source of finance is preferable.

CHAPTER - 4

COST OF CAPITAL

Q. 1. Calculate the cost of capital in each of the following cases:

(i) A 7-y ears ₹ 100 bond of a firm can be sold for a net price of ₹ 97.75 and is redeemable at a premium of 5%. The coupon rate of interest is 15% and the tax rate is 55%.

(ii) A company issues 10% Irredeemable Preference Shares at₹105 each (FV = 100).

(iii) The current market price of share is ₹ 90 and the expected dividend at the end of current year is ₹ 4.50 with a growth rate of 8%.

(iv) The current market price of share is ₹100. The firm needs ₹ 1,00,000 for expansion and the new shares can be sold only at ₹ 95. The expected dividend at the end of current year is ₹ 4.75 with a growth rate of 6%. Also calculate the cost of capital of new equity.

(v) A company is about to pay a dividend of ₹ 1.40 per share having a market price of ₹19.50. Thecxpected future growth in dividends is estimated at 12%.

Q. 2. (a) A company raised preference share capital of ₹ 1,00,000 by the issue of 10% Preference shares of ₹ 10 each. Find out the cost of preference share capital when it is issued at (i) 10% premium, and (ii) 10% discount.

(b) A company has 10% redeemable preference share which are redeemable at the end of 10th year from the dale ol issue. The underwriting expenses are expected to 2%. Find out the effective cost of preference share capital.

(c) The entire share capital of a company consist of 1,00,000 equity share of ₹ 100 each. Its current earnings are ₹ 10,00,000 p.a. The company wants to raise additional funds of ₹ 25,00,000 by issuing new shares. The flotation cost is expected to be 10% of the face value. Find out the cost of new equity capita! given that the earnings are expected to remain same for coming years.

Q. 3. The following figures are taken from the current balance sheet of Delaware & Co.

Capital	₹ 8,00,000
Share Premium	2,00,000
Reserves	6,00,000
Shareholder's funds	16,00,000
12% Perpetual debentures	4,00,000

An annual ordinary dividend of ₹ 2 per share has just been paid. In the past, ordinary dividends have grown at a rate of 10 per cent per annum and this rate of growth is expected to continue. Annual interest has recently been paid on the debentures. The ordinary shares are currently quoted at ₹ 27.5 and the debentures at 80 per cent Ignore taxation.

You are required to estimate the weighted average cost of capital (based on market values) for Delaware & Co.

Q. 4. The capital structure of XYZ & Co. is comprising of 8.57% debenture, 9% preference share and some equity share of ₹ 100 each in the ratio of 3 : 2 : 5. The company is considering to introduce additional capital to meet the needs of expansion plans by raising 10% loan from financial institutions. As a result of this proposal, the proportions of different above sources would go down by 1/10, 1/15 and 1 /6 respectively.

In the light of the above proposal, find out the impact on the WACC of the firm given that (i) tax rate is 30%, (ii) expected dividend of ₹ 9 at the end of the year; and (iii) the growth rate, g, may be taken at 5%. No change is expected in dividends, growth rate, market price of the share etc. after availing the proposed loan.

Q. 5. H Ltd-and Z Ltd. have the same levels of business risk and their market values and earnings are summarised below :

	H Ltd.	Z Ltd.
Market Values :		
Equity	₹ 6,00,000	₹ 3,00,000
Debt	----	2,50,000
	6,00,000	5,50,000
Earnings	90,000	90,000
Less:Interest	----	22,000
	90,000	68,000

Calculate the post-tax cost of equity, cost of debt and weighted average cost of capital of both the companies. Assume that the income-tax rate is 35% and the additional tax on dividend distribution is 20%.

Q. 6. The following is the capital structure of Simons Company Ltd.

Equity shares: 10,000 shares (of ₹100 each)	₹ 10,00,000
10% Preference Shares (of ₹100 each)	4,00,000
10% Debentures	6,00,000
	20,00,000

The market price of the company's share is ₹110 and it is expected that a dividend of ₹ 10 per share would be declared after 1 year. The dividend growth rale is 6% :

(i) If the company is in the 40% Tax bracket, compute the weighted average cost of capital.

(ii) Assuming that in order to finance an expansion plan, the company intends to borrow a fund of ₹ 10 lacs bearing 11.67% rate of interest, what will be the company's revised weighted average cost of capital? This financing decision is expected to increase dividend from ₹ 10 to ₹12 per share. However, the market price of equity share is expected to decline from ₹ 110 to ₹ 105 per share.

Q. 7. The following balances appear in the balance sheet of Nagraj Alloys Ltd.

Equity shares of ₹ 5 each	₹ 8,00,000
10% Pref. Shares of ₹10 each	5,00,000
Reserves & Surplus	6,00,000
12% Debentures	10,00,000

The company is expected to earn an EBIT of ₹ 9,00,000 p.a. and the tax rate is 40%. The current market prices of the equity and preference shares are ₹ 12 50 and ₹ 8 respectively. However, the debentures are being traded at par. Find oui the WACC given that retained earnings and dividends are valued equally by shareholders.

Q. 8. ABC Ltd wishes to raise additional finance of ₹20 Lakhs for meeting its investment plans. The Company has ₹ 4,00,000 in the form of Retained Earnings available for investment purposes. The following are further details

1. Debt Equity Ratio 25:75.
2. Cost of Debt at the rate of 10% (before tax) upto ₹ 2,00,000 and 13% (before tax) beyond that,
3. Earnings Per Share = ₹12.
4. Dividend Payout = 50% of Earnings.
5. Expected Growth Rate in Dividend 10%.
6. Current Market Price per Share = ₹ 60.
7. Company's Tax Rate is 30% and Shareholder's Personal Tax Rate is 20%

Calculate the following -

1. Post Tax Average Cost of Additional Debt.
2. Cost of Retained Earnings and Cost of Equity.
3. Overall Weighted Average (after tax) Cost of Additional Finance.

Q. 9. The R & G Co. has following capital structure at 31st March 2010, which is considered to be optimum -

Particulars	Amount (in ₹)
13% Debentures	3,60,000
11% Preference Share Capital	1,20,000
Equity Share Capital (2,00,000 Shares)	19,20,000

The Company's Share has a Current Market Price of ₹ 27.75 per Share. The expected Dividend per Share in the next year is50% of the 2010 EPS. The EPS of last 10 years is as follows. The past trends are expected to continue -

Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
EPS(₹)	1.00	1.120	1.254	1.405	1.574	1.762	1.974	2.211	2.476	2.773

The Company can issue 14% New Debenture. The Company's Debenture is currently selling at ₹ 98. The New Preference Issue can be sold at a net price of ₹ 9.80, paying a dividend of ₹1.20 per Share. The Company's Marginal Tax Rate is 50%.

Required:

1. Calculate the After Tax Cost - (a) of new Debt and new Preference Share Capital, (b) of ordinary Equity, assuming new Equity comes from Retained Earnings.

2. Calculate the Marginal Cost of Capital.

3. How much can be spent for Capital Investment before new ordinary share must be sold? Assuming that retained earning available for next year's investment are 50% of 2010 earnings.

4. What will be Marginal Cost of Capital (cost of fund raised in excess of the amount calculated in Part (3), if the Company can sell new Ordinary Shares to net ₹20 per share? Cost of Debt and of Preference Capital is constant.

CAPITAL BUDGETING

Q. 1. Machine A costs ₹ 1,00,000 payable immediately. Machine B costs ₹ 1,20,000 half payable immediately and half payable in one year's time. The cash receipts expected are as follows :

Year (at end)	Machine A	Machine B
1	₹ 20,000	—
2	60,000	₹ 60,000
3	40,000	60,000
4	30,000	80,000
5	20,000	—

At 7% opportunity cost, which machine should be selected on the basis of NPV?

Q. 2. A company is considering a new project for which the invest-ment data are as follows:

Capital outlay	₹ 2,00,000
Depreciation	20% p.a.

Forecasted annual income before charging depreciation, but after all other charges are as follows:

Year 1	₹1,00,000
2	1,00,000
3	80,000
4	80,000
5	40,000
	4,00,000

On the basis of the available data, set out calculations, illus-trating and comparing the following methods of evaluating the return :

(a) Payback method.

(b) Rate of return on original investment.

Q. 3. A company has to consider the following Project:

Cost		₹ 10,000
Cash inflows :		
Year	1	₹ 1,000
	2	1,000
	3	2,000
	4	10,000

Compute the internal rate of return and comment on the project if the opportunity cost is 14%.

Q. 4. A firm whose cost of capital is 10% is considering two mutually exclusive projects X and Y, the details of which are :

	Year	Project X	Project Y
Cost	0	₹ 1,00,000	₹ 1,00,000
Cash inflows	1	10,000	50,000
	2	20,000	40,000
	3	30,000	20,000
	4	45,000	10,000
	5	60,000	10,000

Compute the Net Present Value at 10%, Profitability Index, and Internal Rate of Return for the two projects.

Q. 5. P. Ltd. has a machine having an additional life of 5 years which costs ₹10,00,000 and has a book value of ₹4,00,000. A new machine costing ₹20,00,000 is available.Though its capacity is the same as that of the old machine, it will mean a saving in variable costs to the extent of ₹7,00,000 per annum. The life of the machine will be 5 years at the end of which it will have a scrap value of ₹2,00,000. The rate of income-tax is 40% and P. Ltd.'s policy is not to make an investment if the yield is less than 12% per annum. The old machine, if sold today, will realise 1,00,000; it will have no salvage value if sold at the end of 5th year. Advise P. Ltd. whether or not the old machine should be replaced.

Q. 6. The expected cash flows of three projects are given below. The cost of capital is 10 per cent.

(a) Calculate the payback period, net present value, internal rate of return and accounting rate of return of each project.

(b) Show the rankings of the projects by each of the four methods.

Period	Project A (₹)	Project B(₹)	Project C (₹)
0	(5,000)	(5,000)	(5,000)
1	900	700	2,000
2	900	800	2,000
3	900	900	2,000
4	900	1,000	1,000
5	900	1,100	
6	900	1,200	
7	900	1,300	
8	900	1,400	
9	900	1,500	
10	900	1,600	

Q. 7. Lockwood Limited wants to replace its old machine with a new automatic machine. Two models A and B are available at the same cost of ₹ 5 lakhs each. Salvage value of the old machine is ₹1 lakh. The utilities of the existing machine can be used if the company purchases A. Additional cost of utilities to be purchased in that case are ₹ 1 lakh. If the company purchases B then all the existing utilities will have to be replaced with new utilities costing ₹ 2 lakhs. The salvage value of the old utilities will be ₹ 0.20 lakhs. The earnings after taxation are expected to be:

Year	(cash in-flows of)		
	A ₹	B ₹	P.V. Factor @ 15%
1	1,00,000	2,00,000	0.87
2	1,50,000	2,10,000	0.76
3	1,80,000	1,80,000	0.66
4	2,00,000	1,70,000	0.57
5	1,70,000	40,000	0.50
Salvage Value at the end of Year 5	50,000	60,000	

The targeted return on capital is 15%. You are required to (i) Compute, for the two machines separately, net present value, discounted payback period and desirability factor and (ii) Advice which of the machines is to be selected.

Q. 8. A Hospital is considering to purchase a Diagnostic Machine costing ₹ 80,000. The projected life of the machine is 8 years, and it has an expected Salvage Value of ₹ 6,000 at the end of 8 years. The annual operating cost of the machine is ₹ 7,500. It is expected to generate revenues of ₹ 40,000 per year for 8 years. Presently, the Hospital is outsourcing the diagnostic work and is earning Commission Income of ₹ 12,000 per annum, net of taxes.

Required: Whether it would be profitable for the Hospital to purchase the machine? Give your recommendation under Net Present Value and Profitability Index Methods. PV Factors at 10% are given below -

Year	1	2	3	4	5	6	7	8
PV Factor	0.909	0.826	0.751	0.683	0.621	0.564	0.513	0.467

Q. 9. A Company is considering a proposal of installing a Drying Equipment. The equipment would involve a cash outlay of its.6,00,000 and net Working Capital of ₹ 80,000. The expected life of the project is 5 years without any salvage value. Assume that the Company is allowed to charge depreciation on straight-line basis for income-tax purpose.

The estimated before-tax cash inflows are given below -

Year	1	2	3	4	5
Before Tax Cash Inflows (₹ 000s)	240	275	210	180	160

The applicable income tax rate to the Company is 35%. If the Company's opportunity cost of capital is 12%, calculate the equipment's - (a) Discounted Payback Period, (b) Payback Period, (c) NPV and (d) IRR.

Q. 10. WX Ltd has a machine which has been in operation for 3 years. Its remaining estimated useful life is 8 years with no salvage value in the end. Its current market value is ₹ 2,00,000. The Company is considering a proposal to purchase a new model of machine to replace the existing machine. The relevant information is as follows :

Particulars	Existing Machine	New Machine
Cost of Machine	₹ 3,30,000	₹ 10,00,000
Estimated Life	8 Years	8 Years
Salvage Value	Nil	₹ 40,000
Annual Output	30,000 units	75,000 units
Selling Price per unit	₹ 15	₹15
Annual Operating Hours	₹ 15	3,000
Material Cost per unit	₹ 4	₹ 4
Labour Cost per hour	₹ 40	₹ 70
Indirect Cash Cost per annum	₹ 50,000	₹ 65,000

The Company follows the Straight Line Method of Depreciation. The Corporate Tax Rate is 30% and WX Ltd does not make any investment, if it yields less than 12%. Present Value of Re.1 at 12% rate of discount, received at the end of the 8th year is 0.404. Ignore Capital Gain Tax.

CHAPTER - 7 ESTIMATION OF WORKING CAPITAL

Q. 1. Grow More Ltd. is presently operating at 60% level, producing 36,000 units per annum. In view of favourable market conditions, it has been decided that from 1st January 2014, the company would operate at 90% capacity. The following informations are available :

(i) Existing cost price structure per unit is given below :

Raw material	₹ 4.00
Wages	2.00
Overheads (Variable)	2.00
Overheads (Fixed)	1.00
Profits	1.00

(ii) It is expected that the cost of raw material, wages rate, expenses and sales per unit will remain unchanged.

(iii) Raw materials remain in stores for 2 months before these are issued to production. These units remain in production process for 1 month.

(iv) Finished goods remain in godown for 2 months.

(v) Credit allowed to debtors is 2 months. Credit allowed by creditors is 3 months.

(vi) Lag in wages and overhead payments is 1 month. It may be assumed that wages and overhead accrue evenly throughout the production cycle.

You are required to :

(a) Prepare profit statement at 90% capacity level ; and

(b) Calculate the working requirements on an estimated basis to sustain the increased production level.

Assumptions made if any, should be clearly indicated.

Q. 2. ABC Ltd. is currently producing 2000 units per month. It is contemplating to increasing the monthly production to 4000 units by working an extra shift in such a way that the work started in the first shift will continue in the extra shift. A quantity discount of 10% on all purchase of raw material is expected from supplier. The selling price, variable costs and fixed costs would remain same. Following is the income statement for the current year :

Income Statement

Sales (24,000 x ₹ 18)				₹ 4,32,000
Less : Raw Material (24,000 x ₹ 6)			₹ 1,44,000	
Wages	-	Variable (24,000 x ₹ 3)	72,000	
	-	Fixed	48,000	
Overheads	-	Variable (24,000 x 1)	24,000	
	-	Fixed	96,000	3,84,000
Profit				48,000

Other Information :

(a) The credit period allowed to customers is 3 months and would remain same.

(b) The lag period for payment of suppliers would remain same at 2 months.

(c) Wages and overheads are paid with a lag of half a month and would be same.

(d) Finished goods stock at present is maintained at 4500 units. Raw material holding period is 3 months.

(e) The work-in-progress period is 1 month and is valued at prime cost.

You are required to prepare the income statement for next year after the increase in monthly production is introduced. Also find out the working capital requirement, both at present and for next year.

Q. 3. Shellcal Limited sells goods at a uniform rate of gross profit of 20% on sales including depreciation as part of cost of production. Its annual figure are as under :

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

The company keeps one month stock each of raw materials and finished goods. A minimum cash balance of ₹ 80,000 is always kept. The company wants to adopt a 10% safety margin in the maintenance of working capital. The company has not work - in - progress.

Find out the requirements of working capital of the company on cash cost basis.

Q. 4. From the following information of XYZ Ltd., you are required to calculate :

(a) Net operating cycle period.

(b) Number of operating cycles ina year.

		(₹)
(i)	Raw material inventory consumed during the year	6,00,000
(ii)	Average stock of raw material	50,000
(iii)	Work-in-progress inventory	5,00,000
(iv)	Average work-in-progress inventory	30,000
(v)	Finished goods inventory	8,00,000
(vi)	Average finished goods stock held	40,000
(vii)	Average collection period from debtors	45 days
(ix)	No. of days in a year	360 days

Q. 5. The following figures and ratios are related to a company:

(i) Sales for the year (all credit)	₹ 30,00,000
(ii) Gross Profit ratio	25 percent
(iii) Fixed assets turnover (based on cost of goods sold)	1.5
(iv) Stock turnover (based on cost of goods sold)	6
(v) Liquid ratio	1 : 1
(vi) Current ratio	1.5 : 1
(vii) Debtors collection period	2 months
(viii) Reserves and surplus to Share capital	0.6 : 1
(ix) Capital gearing ratio	0.5
(x) Fixed assets to net worth	1.20 : 1

You are required to prepare:

(a) Balance Sheet of the company on the basis of above details.

(b) The statement showing working capital requirement, if the company wants to make a provision for contingencies @ 10 percent of net working capital including such provision.

CHAPTER - 8

RECEIVABLE MANAGEMENT

Q. 1. Radiance Garments Ltd. manufacturers ready-made garments and sells them on credit basis through a network of dealers. Its present sale is ₹ 60 lakhs per annum with 20 days credit basis through a network of dealers. The company is contemplating an increase in the credit period with a view to increasing sales. Present variable costs are 70% of sales and the total fixed costs ₹ 8 lakhs per annum. The company expects pre-tax return on investment @ 25%. Some other details are given as under :

Proposed Credit Policy	Average Collection Period (days)	Expected Annual Sales (₹ Lakhs)
I	30	65
II	40	70
III	50	74
IV	60	75

Required : Which credit policy should the company adopt? Present your answer in a tabular form. Assume 360 days a year. Calculations should be made upto two digits after decimal.

Q. 2. A company has prepared the following projections for a year :

Sales	21,000 units
Selling Price per unit	₹ 40
Variable Costs per unit	₹ 25
Total Costs per unit	₹ 35
Credit Period Allowed	One month

The company proposes to increase the credit period allowed to its customers from one month to two months. It is envisaged that the change in the policy as above will increase the sales by 8%. The company desires a return of 25% on its investment. You are required to examine and advise whether the proposed Credit Policy should be implemented or not.

Q. 3. 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 of 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 per cent and 80 per cent 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).

Q. 4. A Company has sales of ₹ 25,00,000. Average collection period is 50 days, bad debt losses are 5% of sales and collection expenses are ₹ 25,000. The cost of funds is 15%. The Company has two alternative Collection Programmes:

	Programme I	Programme II
Average Collection Period reduced to	40 days	30 days
Bad debt losses reduced to	4% of sales	3% of sales
Collection Expenses	₹ 50,000	₹ 80,000

Evaluate which Programme is viable.

Q. 5. A company currently has an annual turnover of ₹ 50 lakhs and an average collection period of 30 days. The company wants to experiment with a more liberal credit policy on the ground that increase in collection period will generate additional sales.

From the following information, kindly indicate which policy the company should adopt:

Credit Policy	Average Collection Period	Annual Sales (₹ lakhs)
A	45 days	56
B	60 days	60
C	75 days	62
D	90 days	63

Costs : Variable cost : 80% of sales

Fixed Cost : ₹ 6 lakhs per annum

Required (pre-tax) return on investment : 20%

A year may be taken to comprise of 360 days.

FUND FLOW STATEMENT

Q. 1. Balance Sheets of OP Ltd. as on 31st March 2013 and 2014 are as follows :

Liabilities	31.3.2013	31.3.2014	Assets	31.3.2013	31.3.2014
Share Capital	20,00,000	20,00,000	Land and Buildings	15,00,000	14,00,000
General Reserve	4,00,000	4,50,000	Plant and Machinery	18,00,000	17,50,000
Profit and Loss Account	2,50,000	3,60,000	Investment	4,00,000	3,72,000
10% Debentures	10,00,000	8,00,000	Stock	4,80,000	8,50,000
Bank Loan (Long - Term)	5,00,000	6,00,000	Debtors	6,00,000	7,98,000
Creditors	4,00,000	5,80,000	Prepaid Expenses	50,000	40,000
Outstanding Expenses	20,000	25,000	Cash and Bank	1,40,000	85,000
Proposed Dividend	3,00,000	3,60,000			
Provision for Taxation	1,00,000	1,20,000			
Total	**49,70,000**	**52,95,000**	**Total**	**49,70,000**	**52,95,000**

Additional Information :

1. New Machinery for ₹ 3,00,000 was purchased but an Old Machinery Costing ₹ 1,45,000 was sold for ₹ 50,000, and Accumulated Depreciation thereon was ₹ 75,000.
2. 10% Debentures were redeemed at 20% premium.
3. Investments were sold for ₹ 45,000, and its profit was transferred to General Reserve.
4. Income - tax paid during the year 2013-2014 was ₹ 80,000.
5. An Interim Dividend of ₹ 1,20,000 has been paid during the year 2013-2014.
6. Assume the Provision for Taxation as Current Liability and Proposed Dividend as Non - Current Liability.
7. Investments are Non - Trade Investments.

Prepare :

(a) Schedule of Changes in Working Capital, and

(b) Funds Flow Statement.

Q. 2. The following are the Balance Sheets of Gama Limited for the year ending 31st March, 2013 and 31st March 2014.

Liabilities	31.3.2013	31.3.2014	Assets	31.3.2013	31.3.2014
Share Capital	6,75,000	7,87,500	Fixed Assets	11,25,000	13,50,000
General Reserve	2,25,000	2,81,250	**Less :** Accum. Depreciation	2,25,000	2,81,250
Capital Reserve			Net Fixed Assets	9,00,000	10,68,750
(Profit on Sale of Invts)	----	11,250	Long - Term Investments		
Profit & Loss Account	1,12,500	2,25,000	(at cost)	2,02,500	2,02,500
15% Debentures	3,37,500	2,25,000	Stock (at cost)	2,25,000	3,03,750
Accrued Expenses	11,250	13,500	Debtors (See Note)	2,53,125	2,75,625
Creditors	1,80,000	2,81,250	Bills Receiveables	45,000	73,125
Provision for Dividends	33,750	38,250	Prepaid Expenses	11,250	13,500
Provision for Taxation	78,750	85,500	Miscellaneous Expenditure	16,875	11,250
Total	**16,53,750**	**19,48,500**	**Total**	**16,53,750**	**19,48,500**

Note : Debtors are net of Provision for Doubtful Debts of ₹ 45,000 and ₹ 56,250 respectively for 2013 and 2014 respectively.

Additional Information :

1. During the year 2013-2014, Fixed Assets with a Net Book Value of ₹ 11,250 (Accumulated Depreciation = ₹ 33,750) was sold for ₹ 9,000.
2. During 2013-2014, Investments costing ₹ 90,000 were sold, and also Investments costing ₹ 90,000 were purchased.
3. Debentures were retired at a premium of 10%.
4. Tax of ₹ 61,875 was paid for 2012-2013.
5. During the year 2013-2014, Bad Debts of ₹ 15,750 were written off against the Provision for Doubtful Debts A/c.
6. The Proposed Dividend for 2012-2013 was paid in 2013-2014.

Prepare a Funds Flow Statement (Statement of Changes in Financial Position on Working Capital basis) for the year ended 31st March, 2014.

Q. 3. Following are the Financial Statements of Zed Ltd. (in ₹)

Balance Sheet

Liabilities	31.03.2014	31.03.2013	Assets	31.03.2014	31.03.2013
Share Capital, ₹ 10 par value	1,67,500	1,50,000	Land	3,600	3,600
Share Premium	3,35,000	2,37,500	Building, Net of Depreciation	6,01,800	1,78,400
Reserves and Surplus	1,74,300	1,23,250	Machinery, Net of Depreciation	1,10,850	1,07,050
Debentures	2,40,000	----	Investment in 'A' Ltd.	75,000	----
Long - term Loans	40,000	50,000	Stock	58,800	46,150
Creditors	28,800	27,100	Prepaid Expenses	1,900	2,300
Bank Overdraft	7,500	6,250	Debtors	76,350	77,150
Accrued Expenses	4,350	4,600	Trade Investments	40,000	1,05,000
Income - tax Payable	48,250	16,850	Cash	77,400	95,900
Total	**10,45,700**	**6,15,550**	**Total**	**10,45,700**	**6,15,550**

Income Statement for the year ended March 31, 2014 (in ₹)

Net Sales	13,50,000
Less : Cost of Goods Sold and Operating Expenses	12,58,950
(including Depreciation on Buildings of ₹ 6,600 and Depreciation on Machinery of ₹ 11,400)	
Net Operating Profit	91,050
Gain on Sale of Trade Investments	6,400
Gain on Sale and Machinery	1,850
Profits before Tax	99,300
Income - Tax	48,250
Profits after Tax	51,050

Additional Information :

1. Machinery with a Net Book Value of ₹ 9,150 was sold during the year.
2. The Shares of 'A' Ltd. were acquired by Issue of Debentures.

Prepare a Fund Flow Statement (Statement of Changes in Financial position on Working Capital basis) for the year ended March 31, 2014.

Q. 4. From the following summarized Balance Sheets of a Company, as at 31st March, you are required to prepare Funds Flow Statement. All working should form part of your answer.

Liabilties	2013	2014	Assets	2013	2014
Equity Share Capital	₹ 75,000	₹ 1,20,000	Fixed Assets	₹ 2,40,070	₹ 2,53,730
10% Redeemable Pref.			Less : Depreciation	90,020	98,480
Share Capital	1,00,000	80,000		1,50,050	1,55,050
Profit and Loss Account	1,00,350	1,02,700	Bank	11,750	32,000
Reserve for Replacement			Investment	61,000	76,000
of Machinery	15,000	10,000	Stock	98,000	1,04,000
Long - Term Loans	----	40,000	Trade Debtors	88,000	85,000
Bank Overdraft	22,000	----			
Trade Creditors	84,450	75,550			
Proposed Dividend	12,000	24,000			
	4,08,800	4,52,250		4,08,800	4,52,250

Additional Information :

1. During the year, additional equity capital was issued to the extent of ₹ 25,000 by way of bonus shares fully paid up.
2. Final dividend on preference shares and an interim dividend of ₹ 4,000 on equity shares were paid on 31st March, 2014.
3. Proposed dividends for the year ended 31st March, 2013 were paid in October, 2014.
4. Movement in Reserve for replacement of machinery account represents transfer to Profit and Loss Account.
5. During the year, one item of plant was upvalued by ₹ 3,000 and credit for this was taken in the Profit and Loss Account.
6. ₹ 1,700 being expenditure of fixed assets for the year ended 31st March, 2013 wrongly debited to Sundry Debtors then, was corrected in the next year.
7. Fixed Assets costing ₹ 6,000 (accumulated depreciation ₹ 4,800) were sold for ₹ 250. Loss arising therefrom was written off.
8. Preference shares redeemed during the year were out of a fresh issue of equity shares. Premium paid on redemption was 10%.

CASH FLOW STATEMENT

Q. 1. The Balance Sheet of Sagar Ltd. are as follows :

Balance Sheet as on 31st December

Liabilities	2013	2014	Assets	2013	2014
	₹	₹		₹	₹
Equity Share Capital	1,50,000	2,50,000	Goodwill	55,000	45,000
General Reserve	----	30,000	Land & Building	80,000	90,000
Profit & Loss A/c	----	29,000	Plant and Machinery	40,000	1,00,000
Debentures	1,00,000	----	Stock	42,000	53,000
Sundry Creditors	57,000	46,000	Debtors	90,000	98,000
Bills Payable	30,000	6,000	Bills Receivable	8,000	12,000
Provision for Tax	----	25,000	Prepaid Expenses	6,000	4,000
Proposed Dividend	----	20,000	Cash in Hand	10,000	4,000
			Profit & Loss A/c	6,000	----
Total	**3,37,000**	**4,06,000**		**3,37,000**	**4,06,000**

Additional Information :

1. During the year 2014 Depreciation of ₹ 8,000/- and ₹ 10,000/- have been charged on Land & Building and Plant & Machinery respectively.
2. An Interim Dividend of ₹ 7,500 was paid during the year 2014.
3. During the year 2014 Machinery having a Book value of ₹ 8,000 was sold for ₹ 7,000.

Prepare a Cash Flow Statement (by Indirect Method) for the year ended 31st December, 2014 as per AS 3.

Q. 2. The Balance Sheet JK Limited as on 31st March for two years are given below - (₹ 000s)

Liabilities	Year 1	Year 2	Assets	Year 1	Year 2
Share Capital	1,440	1,920	Fixed Assets	3,840	4,560
Capital Reserve	----	48	**Less :** Depreciation	1,104	1,392
General Reserve	816	960	Net Block	2,736	3,168
P & L A/c	288	360	Investments	480	384
9% Debentures	960	672	Cash	210	312
Current Liabilities	576	624	Other Current Assets		
Proposed Dividend	144	174	(including Stock)	1,134	1,272
Provision for Tax	432	408	Preliminary Expenses	96	48
Unpaid Dividend	----	18			
Total	**4,656**	**5,184**	**Total**	**4,656**	**5,184**

Prepare a Cash Flow Statement from the above and the following additional information:

(a) During the year, certain Fixed Assets with a book value of ₹ 2,40,000 (Accumulated Depreciation ₹ 84,000) was sold for ₹ 1,20,000.

(b) Provided ₹ 4,20,000 as Depreciation.

(c) Some Investment are sold at a profit of ₹ 48,000 and Profit was credited to capital Reserve.

(d) It decided that Stocks to be valued at Cost, whereas previously the practice was to value Stock at Cost less 10%. The Stock was ₹ 2,59,200 as on 31st March of Year 1. The Stocks as on 31st March of Year 2 was correctly valued at ₹ 3,60,000.

(e) Decided to write off Fixed Assets costing ₹ 60,000 on which depreciation of ₹ 48,000 has been provided.

(f) Debentures are redeemed at ₹ 105.

Q. 3. Prepare a Cash Flow Statement as per AS 3 (Revised) from the following information - (Direct & Indirect Method)

Summarized Balance Sheet of XYZ Ltd. as on 31st March, 2013 and 2014. (₹ in 000')

Liabilities	31.03.2013	31.03.2014	Assets	31.03.2013	31.03.2014
Share Capital	3,900	5,200	Plant & Machinery	3,978	5,525
Reserves & Surplus	1,690	2,600	Land & Building	1,040	1,040
12% Debentures	----	1,300	Investments	130	130
Sundry Creditors	936	1,222	Inventories	676	975
Outstanding Rent	52	65	Sundry Debtors	728	1,131
Income Tax Payable	520	195	Prepaid Selling Expenses	26	52
			Cash at Bank	494	1,677
			Cash in Hand	26	52
Total	**7,098**	**10,582**	**Total**	**7,098**	**10,582**

Profit and Loss Account for the year ended 31st March, 2014

Particulars	₹ 000s	Particulars	₹ 000s
To Opening Stock	806	By Sales	6,331
To Purchases	2,080	By Closing Stock	1,105
To Wages	650		
To Gross Profit c/d	3,900		
Total	**7,436**	**Total**	**7,436**

Particulars	₹ 000s	Particulars	₹ 000s
To Depreciation	390	By Gross Profit b/d	3,900
To Office Expenses	390	By Discount	39
To Rent	130	By Commission	91
To Selling & Distribution Expenses	780	By Dividend	260
To Income - tax	1,040		
To Net Profit c/d	1,560		
Total	**4,290**	**Total**	**4,290**
To Dividend	650	By Balance b/d	1,690
To Balance c/d	2,600	By Net Profit b/d	1,560
Total	**3,250**	**Total**	**3,250**

Q. 4. Balance Sheet of a Company as on 31st March, 20X1 and 20X2 were as follows :

Liabilities	31.03.20X1	31.03.20X2	Assets	31.03.20X1	31.03.20X2
Equity Share Capital	10,00,000	10,00,000	Goodwill	1,00,000	80,000
8% Preference Share Capital	2,00,000	3,00,000	Land and Building	7,00,000	6,50,000
General Reserves	1,20,000	1,45,000	Plant and Machinery	6,00,000	6,60,000
Securities Premium	----	25,000	Investments (Non - Trading)	2,40,000	2,20,000
Profit and Loss Account	2,10,000	3,00,000	Stock	4,00,000	3,85,000
11% Debentures	5,00,000	3,00,000	Debtors	2,88,000	4,15,000
Creditors	1,85,000	2,15,000	Cash and Bank	88,000	93,000
Provision for Tax	80,000	1,05,000	Prepaid Expenses	15,000	11,000
Proposed Dividend	1,36,000	1,44,000	Premium on Redemption of Debentures	----	20,000
Total	**24,31,000**	**25,34,000**	**Total**	**24,31,000**	**25,334,000**

Additional Information :

1. Investments were sold during the year at a profit of ₹ 15,000.
2. During the year, an old machine costing ₹ 80,000 was sold for ₹ 36,000. Its WDV was ₹ 45,000.
3. Depreciation charged on Plant and Machinery at 20% on the Opening Balance.
4. There was no purchase or sale of Land and Building.
5. Provision for tax made during the year was ₹ 96,000.
6. Preference Shares were issued for consideration of cash during the year.

From the above, prepare -

(a) Cash Flow Statement as per AS - 3

(b) Schedule of Changes in Working Capital.

Q. 5. X Ltd. has the following balance as the beginning of a financial year.

Particulars	₹	Particulars	₹
Fixed Assets	11,40,000	Bank Balance	66,500
Less : Depreciation	(3,99,000)	Creditors	1,14,000
Net Block	7,41,000	Bills Payable	76,000
Stock and Debtors	4,75,000	Capital (Shares of ₹ 100 each)	5,70,000

The Company made the following estimates for the financial year :

1. The Company will pay a free of tax dividend of 10% of rate of tax being 25%.
2. The Company will acquire Fixed Assets costing ₹ 1,90,000 after selling one machine for ₹ 38,000 costing ₹ 95,000 and on which depreciation provided amounted to ₹ 66,500.
3. Stocks and Debtors, Creditors and Bills Payable at the end of financial year are expected to be ₹ 5,60,500, ₹ 1,48,200 and ₹ 98,800 respectively.
4. The Profit would be ₹ 1,04,500 after depreciation of ₹ 1,14,000.

Prepare Projected Cash Flow Statement & ascertain the Bank Balances of X Ltd. at the end of the financial year.

Q. 6. The Balance Sheet of X Ltd. as on 31st March, 2010 is as follows :

Liabilities	₹ 000s	Assets		₹ 000s
Equity Share Capital	6,000	Fixed Assets (at cost)	16,250	
8% Preference Share Capital	3,250	Less : Depreciation written off	5,200	11,050
Reserves and Surplus	1,400	Stock		1,950
10% Debentures	1,950	Sundry Debtors		2,600
Sundry Creditors	3,250	Cash		250
Total	**15,850**	**Total**		**15,850**

The following additional information is available :

1. Stock Turnover Ratio based on Cost of Goods Sold would be 6 times.
2. Cost of Fixed Assets to Sales Ratio would be 1.4.
3. Fixed Assets costing ₹ 30,00,000 to be installed on 1st April 2010, Payment would be made on 31st March, 2011.
4. In March, 2011, a dividend of 7% on Equity Capital would be paid.
5. ₹ 5,50,000, 11% Debentures would be issued on 1st April, 2010.
6. ₹ 30,00,000, Equity Shares would be issued on 31st March, 2011.
7. Creditors would be 25% of Materials Consumed.
8. Debtors would be 10% of Sales.
9. Cost of Goods Sold would be 90% of Sales, including Materials 40% and Depreciation 5% of Sales.
10. The Profit is subject to Debenture Interest and Taxation at 30%.

Prepare :

1. Projected Balance Sheet as on 31st March, 2011, and
2. Projected Cash Flow Statement in accordance with AS 3.

CHAPTER - 11

CASH BUDGETS

Q. 1. Prepare monthly cash forecast for the company XYZ Ltd. for the quarter ending 31st March, from the following details :

(i) Opening balance as on 1st January is ₹ 22,000.

(ii) Its estimated sale for the month of January and February ₹ 1,00,000 each and for the month of March is ₹ 1,20,000. The sale for November and December of the previous year have been ₹ 1,00,000 each.

(iii) Cash and credit sales are estimated 20% and 80% respectively.

(iv) The receivables from credit sales are expected to be collected as follows : 50% of the receivable on an average of one month from the date of sales ; and balance 50% after the two months from the date of sale. No bad debts on the realization of sales.

(v) Other anticipated receipt is ₹ 5,000 from the sale of machine in March.

The forecast of payment is as follows :

(a) The purchase of materials worth ₹ 40,000 in January and February and materials worth ₹ 48,000 in March.

(b) The payments for these purchases are made approximately a month after the purchase. The purchase for December of the previous year have been ₹ 40,000 for which the payment will be made in January.

(c) Miscelleneous cash purchase of ₹ 2,000 per month.

(d) The wages payments are expected to be ₹ 1,500 per month.

(e) Manufacturing expenses are expected to be ₹ 20,000 per month.

(f) General selling expenses are expected to be ₹ 10,000 per month.

(g) A machine worth ₹ 50,000 is proposed to be purchased on cash in March.

Q. 2. Lal & Co. has given the forecast sales for January 2014 to July 2014 and actual sales for November and December 2013 as under. With the other particulars given, prepare a Cash Budget for the months i.e. from January to May 2014.

(i) Sales

November	₹ 1,60,000
December	₹ 1,40,000
January	₹ 1,60,000
February	₹ 2,00,000
March	₹ 1,60,000
April	₹ 2,00,000
May	₹ 1,80,000
June	₹ 2,40,000
July	₹ 2,00,000

(ii) Sales 20% cash, and 80% credit, credit period two months.

(iii) Variable expenses 5% on turnover, time lag of half month.

(iv) Commission 5% on credit sale payable in two months.

(v) Purchases are 60% of the sales. Payment will be made in 3rd month of purchases.

(vi) Rent ₹ 6,000 paid every month.

(vii) Other payments : Fixed assets purchases - February ₹ 36,000 and March ₹ 1,00,000 ; Taxes - April 40,000.

(viii) Opening cash balance ₹ 50,000.

Q. 3. Vivek & Co. are manufacturers of check valves which are sold at ₹ 50 each. The cost data are :

(a) Variable manufacturing cost : ₹ 25 per unit.

(b) Variable selling expenses : ₹ 5 per unit.

(c) Fixed manufacturing cost paid in cash : ₹ 1.5 lacs.
Fixed selling expenses : ₹ 1 lac payable in cash each month.

(d) Depreciation : ₹ 30,000 per month.

Other Information :

(i) The company's policy is to hold at the end of each month an inventory of finished goods representing targeted production for next two months. Opening inventory on 1st January was 30,000 units.

(ii) The raw material required each month is purchased in cash which is included in Variable manufacturing cost of ₹ 25. No inventory of raw material is held.

(iii) All sales are on credit. Collection is 50% in the same month and the balance in the following month. The debtors balance was ₹ 4 lacs on 1st Janaury.

(iv) All manufacturing costs are paid in cash in the month of production.

(v) The company pays 80% of its Variable selling expenses in the month of sale and the balance in the following month. On 1st January, the company owed ₹ 25,000 for December expenses.

(vi) The minimum desired cash balance is ₹ 50,000 which is held on 1st January.

(vii) The company borrows at the beginning of the month and repays at the end, amount available in excess of ₹ 50,000.
Ignore interest.

(viii) The sales budget is :

Month	Units	Month	Units
January	15,000	February	20,000
March	25,000	April	27,000
May	30,000	June	30,000

Prepare cash budget of the company (i) for January, February and March ; and (ii) in total.

SOLUTIONS

CHAPTER NO . 1 ACCOUNTING RATIOS

Ans. 1. Balance Sheet as at 31st March 2014

Liabilities	₹	₹	Assets	₹	₹
Net Worth			Plant & Machinery		
Equity Share Capital	4,00,000		and other F.A.		4,25,000
Reserves and Surplus	6,00,000	10,00,000			
			Current Assets		
Total Debt			Inventory	7,00,000	
Current Liabilities		5,00,000	Debtors	3,33,333	
			Cash	41,667	10,75,000
		15,00,000			15,00,000

Working Notes:

(i) Total Debt to Net Worth = 1:2

Total Debt	:	Net Worth
1	:	2
↓		↓
(?)		10,00,000
=		5,00,000

(ii) Total Assets tuneover = 2

$$2 = \frac{\text{Sales}}{\text{Total Assets}}$$

$$2 = \frac{\text{Sales}}{15,00,000} \qquad \therefore \quad \text{Sales} = 30,00,000$$

(iii) Avg collection period = 40 days

$$40 = \frac{\text{C/g Debtors}}{\text{Cr. sales}} \times 360$$

$$\therefore \quad \text{c/g Debtors} = 30,00,000 \times \frac{40}{360} = 3,33,333$$

(iv) Inventory Turnover

$$= \frac{\text{COGS}}{\text{clg stock}}$$

$$3 = \frac{\text{sales (-) G.P.}}{\text{Clg .stock}}$$

$$3 = \frac{21,000}{\text{Clg. Stock}} \qquad \therefore \text{ clg Stock} = 7,00,000$$

(iv) Inventory turnover

$$= \frac{\text{COGS}}{\text{Clg stock}}$$

$$3 = \frac{\text{Sales (-) G.P}}{\text{Clg Stock}}$$

$$3 = \frac{21,00,000}{\text{Clg Stock}} \qquad \therefore \text{ Clg stock} = 7,00,000$$

(v) Quick Ratio = $\frac{QA}{QL} = \frac{\text{Debtors + Cash}}{\text{Current Liabilities}}$

$$0.75 = \frac{3,33,333 + \text{Cash}}{5,00,000}$$

$$\therefore \quad \text{Cash} = 41,667$$

(vii) Since QR is 1:1; it indicates for ₹1 of CL we have ₹ 1 o f QA.

CR of 1.5:1 indicates for ₹1 of CL we have 1.5 of CA to repay CA

Stock	+	QA	:	CL
0.5	+	1		1
↓		↓		↓
3,75,000		(?)		(?)
	=	7,50,000		7,50,000

Ans. 2.(a) **Balance Sheet as at 31st March**

Liabilities	₹	₹	**Assets**	₹	₹
			Fixed Assets		15,00,000
Net worth					
Share Capital	7,81,250				
Reserves & surplus	4,68,750	12,50,000	Current Assets		
			Stock	3,75,000	
Debt		6,25,000			
			Debtors	5,00,000	
			Cash Bank	2,50,000	11,25,000
Current Liabilities		7,50,000			
		26,25,000			26,25,000

Working notes:

(a) G.P. Ratio = 25%

Sales = COGS+ GP

100 = 75 25

30,00,000 (?)

= 22,50,000

(b) FA Turnover = 1.5

$$1.5 = \frac{COGS}{FA} \qquad 1.5 = \frac{22,50,000}{FA} \quad \therefore \text{ FA} = 15,00,000$$

(c) Stock Turnover = 6

$$6 = \frac{COGS}{STOCK} \qquad \text{Stock} = \frac{22,50,000}{6} = 3,75,000$$

(d) Fixed Assets : Net worth

1.2 : 1

↓ ↓

(?) 12,50,000

= 15,00,000

(e) Capital gearIng Ratio = 0.5 : 1

Debt : Equity

0.5 : 1

↓ ↓

(?) : 12,50,000

= 6,25,000

(f) Reserves : Share capital

0.6 : 1

∴ Reserves 0.6 → (?) 4,68,750

\+ Capital 1 → (?) 7,81,250

Net Worth 1.6 → 12,50,000

(g) Debtors collection period

$$2 = \frac{\text{Clg Debtors}}{\text{Cr. Sales}} \times 12$$

$$2 = \frac{\text{Clg Debters}}{30,00,000} \times 12 \quad \therefore \text{ Clg Debtors} = 5,00,000$$

Ans. 3. (i) Average inventory

$$\text{Stock turnover} = \frac{COGS}{\text{Avg stock}}$$

$$6 = \frac{\text{Sales (-) G.P.}}{\text{Avg stock}}$$

$$6 = \frac{30,00,000 \text{ (-) } 7,50,000}{\text{Avg stock}}$$

∴ Avg. stock = 3,75,000

(ii) Purchases=

Let opening stock be χ

$\therefore$ closing stock will be $\chi + 80{,}000$

$$\text{Avg stock} = \frac{\chi + \chi + 80{,}000}{2}$$

$\therefore$ $3{,}75{,}000 \times 2 = 2\chi + 80{,}000$

$2\chi = 6{,}70{,}000$

$\therefore$ $\chi = 3{,}35{,}000$

$\therefore$ Opg stock = 3,35,000

$\therefore$ Clg stk = 4,15,000

Opening stock +Purchase (-) clg stk = COGS

3,35,000+ Purchase - 4,15,000 = 22,50,000

$\therefore$ Purchase - 4,15,000 - 23,30,000

(iii) Average Debtors

$$\text{Debtors turnover} = \frac{\text{Credit sales}}{\text{Avg Debtors}}$$

$$8 = \frac{24{,}00{,}000}{\text{Avg Debtors}} \quad \therefore \quad \text{Avg Debtors} = 3{,}00{,}000$$

Let the credit sales be χ

$\therefore$ Cash sales be will be $0.25\ \chi$

$\chi + 0.25\ \chi = 3{,}00{,}000$

$\therefore$ $\chi = 24{,}00{,}000$

(iv) Average creditors

$$\text{Creditors Turnover} = \frac{\text{Cr Purchase}}{\text{Avg Creditors}}$$

$$10 = \frac{21{,}00{,}000}{\text{Avg Crs.}} \quad \therefore \quad \text{Average Crs.} = 2{,}10{,}000$$

(v) Avg Payment Period

$$= \frac{1}{\text{Creditors turnover}} \times 365$$

$$= \frac{1}{10} \times 365 = 36.5 \text{ days}$$

(vi) Avg collection Period

$$= \frac{1}{\text{Debtors turnover}} \times 365$$

$$= \frac{1}{8} \times 365 = 45.625$$

(vii) Current Assets & Current Liabilities

CR = 2.4 :1

W.C	=	CA	(-)	CL
↓		↓		↓
1.4		2.4		1
↓		↓		↓
2,80,000		(?)		(?)
		= 4,80,000		2,00,000

∴ CA = 4,80,000

CL = 2,00,000

Ans. 4. (i) Quick Ratio

$$= \frac{Q.A}{Q.L} = \frac{\text{Cash + Debtors + Short term Invetsments}}{C.L.}$$

$$= \frac{1,60,000 + 4,00,000 + 3,20,000}{10,00,000}$$

$$= \frac{8,80,000}{10,00,000} = 0.88 : 1$$

(ii) Debt Equity Ratio

$$\text{Debt} = \frac{\text{10\% Debentures}}{\text{E.S.C + Retained Earnings}}$$

$$\text{Equity} = \frac{16,00,000}{20,00,000 + 8,00,000} = 0.57 : 1$$

(iii) $$\text{ROCE} = \frac{\text{EBIT}}{\text{Capital Employed}} \times 100$$

$$= \frac{12,00,000}{16,00,000 + 28,00,000} \times 100 = 27.27\%$$

(iv) Avg coll^{n} period

$$= \frac{\text{Debtors}}{\text{Cr.Sales}} \times 360$$

$$= \frac{4,00,000}{32,00,000} \times 360 = 45 \text{ days}$$

Ans. 5. (i) $$\text{Current ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}} = 2.5 : 1$$

WC	=	CA	(-)	CL
↓		↓		↓
1.5		2.5		1
↓		↓		↓
4,50,000		(?)		(?)

∴ CA = 7,50,000

CL = 3,00,000

(ii) Total Asset turnover = 2

$$2 = \frac{\text{Sales}}{\text{Total assets}}$$

[FA + CA]

$\therefore$ Sales = 2 x [10,00,000 + 7,50,000]

$\therefore$ sales = 35,00,000

(iii) Stock turnover = $\frac{\text{COGS}}{\text{Avg. stock}} = 7$

$$7 = \frac{\text{COGS}}{\text{Avg. stock}}$$

$$7 = \frac{\text{Sales (-) G.P.}}{\text{Avg. stock}}$$

$\therefore$ Avg stock = 4,00,000

(iv) Avg stock = $\frac{\text{Clg stock + Opening stock}}{2}$

$$4,00,000 = \frac{\text{Clg Stk + 3,80,000}}{2}$$

$\therefore$ Clg stk = 4,20,000

(v) F.A. turnover

$$= \frac{\text{Sales}}{\text{F.A.}} = \frac{35,00,000}{10,00,000} = 3.5 \text{ times}$$

(vi) Total funds = Fixed assets + Working capital

= 10,00,000 + 4,50,000

= 14,50,000

$\therefore$ Capital employed = 14,50,000

Debt	equity
1	1.5
Debt	1 → (?) 5,80,000
+ Equity	1.5 → (?) 8,70,000
Capital employed	2.5 → 14,50,000

Equity = 8,70,000

Eq. share Cap.	P.S.C	R & S
6,00,000	2,00,000	70,000

(vii) Proprietory Ratio

$$= \frac{\text{Prop. Funds}}{\text{Total Assets}}$$

$$= \frac{8,70,000}{17,50,000} = 0.5 \text{ times}$$

(viii) Return on Total Assets

$$15 = \frac{\text{PAT}}{17,50,000} \times 100 \qquad \therefore \quad \text{PAT} = 2,62,500$$

	PAT	2,62,500
(-)	P.D.	(18,000)
	Earnings for E.S.H.S	2,44,500
	÷ no. of equity shares	60,000
	EPS	4.075

(xi) $\text{PE Ratio} = \frac{\text{MPS}}{\text{EPS}} = \frac{16}{4.075} = 3.93 \text{ times}$

Summary

(i) $\text{Quick ratio} = \frac{\text{QA}}{\text{QL}} = \frac{\text{CA (-) stk}}{\text{CL}} = \frac{7,50,000 \text{ (-) } 4,20,000}{3,00,000} = 1.1 : 1$

(ii) FA turnover = 3.5 times

(iii) Prop.Ratio = 0.5

(iv) EPS = 4.075

(v) PE Ratio = 3.93 times

Ans. 6. (i) $\text{Average stock} = \frac{\text{Opg stk+ Clg Stock}}{2} = \frac{(2407 + 2867)}{2}$

$$= 2637$$

$$\text{Stock turnover} = \frac{\text{COGS}}{\text{Avg stock}} = \frac{20,860}{2637} = 7.91 \text{ times}$$

(ii) Financial Leverage

$$= \frac{\text{EBIT}}{\text{EBT}} = \frac{170}{57} = 2.98 \text{ times}$$

(iii) Average capital emplyed

$$= \frac{\text{opg Cap.employed + clg cap employed}}{2}$$

$$= \frac{4555 + 5947}{2} = 5251$$

$$\text{ROI} = \frac{\text{EBIT}}{\text{Avg cap.employed}} \times 100 = \frac{170}{5251} \times 100$$

$$= 3.24\%$$

(iv) $$\text{ROE} = \frac{\text{EAT}}{\text{Avg. equity share holder funds}} \times 100$$

$$= \frac{34}{\left(\frac{1472 + 2377}{2}\right)} \times 100 = 1.77\ \%$$

(v) Average coll^{n} period

$$= \frac{\text{Avg Debtors}}{\text{Cr.sales}} \times 365$$

$$= \frac{\frac{116 + 1495}{2}}{22{,}165} \times 365$$

$$= 22 \text{ days}$$

Ans. 7. (a) Calculation of operating expenses.

Sales	6,00,000
Less: COGS	18,00,000
G.P.	42,00,000
Less: Operating Exp.	33,90,000
EBIT	8,10,000
Less: Interest on Debentures	60,000
EBT	7,50,000
Less: Tax @ 50%	3,75,000
EAT @ 6.25%	3,75,000

Balance Sheet as at 31st March

Liabilities	₹	Assets	₹
Share capital	10,50,000	Fixed Assets	17,00,000
Reserves & Surplus	4,50,000	Stock	1,50,000
15% Debentures	4,00,000	Debtors	2,00,000
Sundary creditors	2,00,000	Cash	50,000
	21,00,000		21,00,000

Stock T/O = $\frac{\text{COGS}}{\text{Clg stk}}$

12 = $\frac{18,00,000}{\text{Closing stock}}$ ∴ closing stock = 1,50,000

CR = $\frac{\text{CA}}{\text{CL}}$ = 2

2 = $\frac{\text{CA}}{2,00,000}$ ∴ CA = 4,00,000

Ineventory	Debtors	Cash /Bank
1,50,000	2,00,000	50,000

Return on Net Worth

= $\frac{\text{EAT}}{\text{Equity}}$ x 100

25 = $\frac{3,75,000}{\text{equity}}$ x 100

∴ Equity = 2,50,000

7:3

Share capital	R&S
= 10,50,000	4,50,000

CHAPTER NO . 2 LEVERAGES

Ans. 1. **Income Statement**

Particulars	Company L	Company M
Sales	**(Note 3)** 5,00,000	**(Note 3)** 8,00,000
Less : Variable Cost	(Given 60% of sales) 3,00,000	(Given 70% of Sales) 5,60,000
Contribution	**(Note 1)** 2,00,000	**(Note 1)** 2,40,000
Less : Fixed Cost	(bal. figure , i.e.Contrib.less EBIT) 1,00,000	(bal. figure , i.e.Contrib.less EBIT) 1,60,000
EBIT	**(Note 2)** 1,00,000	**(Note 2)** 80,000
Less : Interest	(bal. figure , i.e.EBIT less EBT) 50,000	(bal. figure , i.e.EBIT less EBT) Nil
EBIT	(reverse working) (EAT + Tax) 50,000	(reverse working) (EAT + Tax) 80,000
Less : Tax	50% on EBIT = same as EAT) 25,000	(50% on EBT = same as EAT) 40,000
EAT	(Given) 25,000	(Given) 40,000
Note 1 :	DCL = Contribution / EBT = Contribution / ₹ 50,000 = 4times So, Contribution = ₹ 50,000 x 4 = **₹ 2,00,000**	DCL = Contribution / EBT = Contribution / ₹ 80,000 = 3 times So, Contribution = ₹ 80,000 x 4 = **₹ 2,40,000**
Note 2 :	DCL= Contribution / EBIT = ₹ 2,00,000 / EBIT = 4times On solving, we have. **EBIT = ₹ 1,00,000**	DOL = Contribution / EBIT = 3 times / EBIT On solving, we have. **EBIT = ₹ 80,000**
Note 3 :	**PVR** = 100% - Variable Cost 60% = **40%** So, Sales = Contribution / PVR = ₹ 2,00,000 / 40%	**PVR** = 100% - Variable Cost 70% = **30%** So Sales = Contribution / PVR = ₹ 2,40,000 / 30%

Ans. 2. Estimation of Degree of Operating Leverage (DOL), Degree of Financial Leverage (DFL) and Degree of Combined Leverage (DCL)

	P	Q	R
Output (in units)	2,50,000	1,25,000	7,50,000
Selling Price (per unit)	7.50	7	10
Sales Revenues	18,75,000	8,75,000	75,00,000
Less: Variable Cost	12,50.000	2,50,000	56,25,000
Contribution Margin	6,25,000	6,25,000	18,75,000
Less: Fixed Cost	5,00,000	2,50,000	10,00,000
EBIT	1,25,000	3,75,000	8,75,000
Less: Interest Expense	75,000	25,000	-
EBT	50,000	3,50,000	8,75,000
DOL = Contribution / EBIT	5	1.67	2.14
DFL= EBIT / EBT	2.5	1.07	-
DCL = DOLx DFL	12.5	1.79	2.14
Comment	Aggressive Policy	Moderate Policy	Moderate Policy with no financial leverage

Ans. 3. **Contribution:**

C = S - V and
EBIT = C - F
10,00,000 = C - 20,00,000
∴ C = 30,00,000

Operating leverage = C / EBIT = 30,00,000/10,00,000 = 3 times
Financial leverage - EBIT/EBT = 10,00,000/8,00,000 = 1.25 times
Combined leverage = OL x FL = 3 x 1.25 = 3.75 times

Ans. 4. (i) DCL = DOL x DFL

2.8 = 1.4 x DFL

DFL =2

(ii) Operating leverage $= \frac{C}{C - F} \times 100$

$1.4 = \frac{C}{C - 2,04,000}$

1.4 (C - 2,04,000) = C

1.4 C - 2,85,600 = C

$C = \frac{2,85,600}{0.4}$

C = 7,14,000

$\text{P/V ratio} = \frac{C}{S} \times 100$

$\text{P/V ratio} = \frac{7,14,000}{30,00,000} \times 100 = 23.8\%$

Therefore, P/V Ratio = 23.8%

$\text{EPS} = \frac{\text{Profit after tax}}{\text{No. of equity shares}}$

EBT = Sales - V - FC - Interest

= 30,00,000 - 22,86,000 - 2,04,000 - 2,55,000 = 2,55,000

PAT = EBT - Tax

= 2,55,000 - 76,500 = 1,78,500

$\text{EPS} = \frac{1,78,500}{1,70,000} = 1.05$

(iii) Assets turnover $= \frac{\text{Sales}}{\text{Total Assets}} = \frac{30,00,000}{38,25,000} = 0.784$

0.784 < 1.5 means lower than industry turnover.

(iv) Overall BEP $= \frac{\text{Operating FC + Interest}}{\text{P/V ratio}} = \frac{2.04,000 + 2,55,000}{23.8\%} = 19,28,571$

Therefore, at 19,28,571 level of sales, the Earnings before Tax of the company will be equal to zero.

Ans. 5.

	₹
Sales	24,00,000
Less: Variable cost	(12,00,000)
Contribution	12,00,000
Less: Fixed cost	(10,00,000)
EBIT	2,00,000
Less: Interest	(1,00,000)
EBT	1,00,000
Less: Tax (50%)	(50,000)
EAT	50,000
No. of equity shares	10,000
EPS	5

(a) Operating Leverage = $\frac{12,00,000}{2,00,000}$ = 6 times

(b) Financial Leverage = $\frac{2,00,000}{1,00,000}$ = 2 times

(c) Combined Leverage = DOL x DFL - 6 x 2 = 12 times.

(d) R.O.E. = $\frac{50,000}{10,00,000}$ x 100 = 5%

(e) Operating Leverage = 6

$$6 = \frac{\text{\% age change in EBIT \%}}{\text{\% age change in Sales}}$$

$$6 \times 25\% = \text{\% age change in EBIT}$$

$$\therefore \quad \text{\% age change in EBIT} = 150\%$$

Increase in EBIT = ₹ 2,00,000 x 150% = ₹ 3,00,000

New EBIT = 5,00,000

Ans. 6.(a) Calculation of Degree of Operating (DOL), Financial (DFL) and Combined leverages(DCL).

DOL = $\frac{₹\ 3,40,000 - ₹\ 60,000}{₹\ 2,20,000}$ = 1.27

DFL = $\frac{2,20,000}{1,60,000}$

DCL = DOL x DFL = 1.27 x 1.37 = 1.75

(b) Earnings per share at the new sales level

	Increase by 20%	Decrease by 20%
	(₹)	(₹)
Sales level	4,08,000	2,72,000
Less: Variable expenses	72,000	48,000
Less: Fixed cost	60,000	60,000
Earnings before interest and taxes	2,76,000	1,64,000
Less: Interest	60,000	60,000
Earnings before taxes	2,16,000	1,04,000
Less: Taxes	75,600	36,400
Earnings after taxes (EAT)	1,40,400	67,600
Number of equity shares	80,000	80,000
EPS	1.75	0.84

Working Notes:

(i) Variable Costs = ₹ 60,000 (total cost - depreciation)

(ii) Variable Costs at:

(a) Sales level, ₹4,08,000 = ₹ 72,000

(b) Sales level, ₹ 2,72,000 = ₹ 48,000

CHAPTER NO . 3 CAPITAL STRUCTURE

Ans. 1. Working notes:

1. capital employed before expansion plan:

	(₹)
Equity shares	8,00,000
Debentures (₹1,20,000/12) x 100	10,00,000
Retained earinng	12,00,000
Total capital employed	**30,00,000**

2. Earning before the payment of interest and tax (EBIT)

EBT	3,00,000
Interest	1,20,000
EBIT	**4,20,000**

3. Return on investment (ROI)

ROI = EBIT x 100 = ₹ 4,20,000

capital employed ₹ 30,00,000

4. Earning before the payment of interest and tax (EBIT) after expansion

After expansion, capital employed = ₹ 34,00,000

Desired EBIT = 14% x ₹ 34,00,000 = ₹ 4,76,000

(i) statement showing Earing Per share (EPS)

		Expansion scheme Additional funds raised as	
		Debt (₹)	**Equity (₹)**
EBIT: (A)		4,76,000	4,76,000
Interest	- Old capital	1,20,000	1,20,000
	- New capital	48,000 (₹ 4,00,000 x 12%)	----------
Total interest: (B)		1,68,000	1,20,000
EBT: {(A) - (B)}		3,08,000	3,56,000
Less: Tax (50%)		(1,54,000)	(1,78,000)
EAT		1,54,000	1,78,000
Numbers of Equity shares		80,000	1,20,000
E.P.S		1.925	1.48

(ii) Advice to the company: Since EPS is greater in the case when company arranges additional funds as debt.

Therefore debt scheme is better.

Ans. 2. Calculation of Earning Per share under the three options:

Particulars	Option I (Equity Only)	Option II (Debenturesonly)	Option III (Equity & Debentures)
Number of Equity shares (lakhs):			
Existing	10	10	10.00
New issued	2	-	0.50
Total	12	10	10.50
1 6% debentures	NIL	50	25
Estimated total Income:			
From current Operations	60	60	60
From new projects	40	40	40
EBIT	100	100	100
Less: Interest on 16% debentures	----	8	4
Profit before tax	100	92	96
Less: Tax at 50%	(50)	(46)	(48)
Profit after tax	50	46	48
EPS	₹ 4.17	₹ 4.60	₹ 4.57

Advise : Option II i.e., issue of 16% debentures is most suiatable to maximise the earning per share.

Ans. 3. **Statement showing calculation of EPS**

	Plan I	Plan II	Plan III
EBIT	₹ 2,50,000	₹ 3,50,000	₹ 5,00,000
Less: Interest @ 10%	(10,000)	(10,000)	(10,000)
@ 14%	------	(28,000)	(56,000)
EBT @ 18%	2,40,000	3,12,000	4,16,000
Less: Tax @ 50%	(1,20,000)	(1,56,000)	(2,08,000)
EAT	1,20,000	1,56,000	2,08,000
No. of shares	30,000	23,333	13,333
EPS	₹ 4.00	₹ 6.68	₹15.60

EPS is highest at ₹ 15.60 in Plan III, so may be accepted by the company.

Note: It has been presumed that the issue of equity shares has been made at ₹ 30 in each case.

Ans. 4. **Capital Structure** **(Amount in ₹)**

Particulars	Plan I	Plan II	Plan III	Plan IV
Equity share capital (old)	10,00,000	10,00,000	10,00,000	10,00,000
Equity share capital (new)	6,00,000	4,00,000	3,00,000	3,00,000
12% long term loan	-	2,00,000	-	-
9% Debentures	-	-	3,00,000	-
6% Preference shares	-	-	-	3,00,000

Statement showing computation of EPS and Financial Leverage **(Amount in ₹)**

Particulars	Plan I	Plan II	Plan III	PlanIV
EBIT	4,00,000	4,00,000	4,00,000	4,00,000
Less: Interest on 12% loan	-	(24,000)	-	-
Less: Interest on 9% Debentures	-	-	(27,000)	-
EBT	4,00,000	3,76,000	3,73,000	4,00,000
Less : Tax (40%)	(1,60,000)	(1,50,400)	(1,49,200)	(1,60,000)
EAT	2,40,000	2,25,600	2,23,800	2,22,000
Less: Preference Dividends@ 6%	-	-	-	(18,000)
Earnings available for equity shareholders (A)	2,40,000	2,25,600	2,23,800	2,22,000
No. of Equity shares (B)	1,60,000	1,40,000	1,30,000	1,30,000
(i) EPS $\frac{(A)}{(B)}$	1.50	1.61	1.72	1.71
(ii) Degree of financial Leverage (DFL) $\frac{EBIT}{EBI - \frac{Preference\ Div}{(1-t)}}$	$\frac{4,00,000}{4,00,000}$ = 1.00	$\frac{4,00,000}{4,00,000}$ = 1.06	$\frac{4,00,000}{4,00,000}$ = 1.07	$\frac{4,00,000}{4,00,000-18,000}{(1-0.40)}$ = 1.08

Ans. 5. If financing agencies insist 2 : 1 Debt Equity ratio then company has two options;

(i) To arrange whole amount the company as issue equity shares.

(ii) Company should arrange 3 crores by 12% term loan and 1.50 crore through equity share so that 2:1 Debt-equity ratio can be maintained.

In first option interest will be Zero and in second option the interest will be ₹ 36,00,000 Let EBIT be x

$$\frac{(X-I_1)(1-T)}{N_1} = \frac{(X-I_2)(1-T)}{N_2}$$

$$\text{Or} \quad \frac{(X-0)(1-0.5)}{45\ \text{Lakhs}} = \frac{(X-36\ \text{Lakhs})(1-0.5)}{15\text{Lakhs}}$$

$$\text{Or} \quad \frac{0.5x}{45} = \frac{0.5x18}{15}$$

$$\text{Or } 7.5x = 22.5x - 810$$

$$\text{Or } 810 = 22.5x - 7.5x$$

$$\text{Or } 810 = 15x$$

$$X = \frac{810}{15} = 54\ \text{Lakhs}$$

EBIT at point of indifference will be ₹ 54 Lakhs.

Ans. 6. Computation of level of earnings before interest and tax (EBIT). In case alternative (i) is accepted, then the EPS of the firm would be :

$$EPS = \frac{(EBIT - 0.12 \times ₹\,4,00,000)(1-0.35)}{60,000}$$

Incase the alternative (ii) is accepted, then the EPS of the firm would be

$$EPS = \frac{(EBIT - 0.12 \times ₹\,4,00,000)(1-0.35) - (0.14 \times ₹\,2,00,000)}{40,000}$$

In order to determinne the indifference level of EBIT, the EPS under the alternative plan should be equated as follows:

$$\frac{(EBIT - 0.12 \times ₹\,4,00,000)(1-0.35)}{60,000} = \frac{(EBIT - 0.12 \times ₹\,4,00,000)(1-0.35) - (0.14 \times ₹\,2,00,000)}{40,000}$$

or $\frac{(0.65\ EBIT - ₹\,31,200)}{3} = \frac{(0.65\ EBIT - ₹\,31,200)}{2}$

or $1.30\ EBIT - ₹\,62,4000 = 1.95\ EBIT - ₹\,1,77,600$

or $(1.95-1.30)\ EBIT = ₹\,1,77,600 - ₹\,62,400$

or $EBIT = \frac{₹\,1,15,200}{0.65}$

or $EBIT = 1,77,231$

Ans .7.(a) (i) Computation of EPS under three - financial plans:

Plan I : Equity Financing **(Amount in ₹)**

EBIT	62,500	1,25,000	2,50,000	3,75,000	6,25,000
Less: Interest	0	0	0	0	0
EBT	62,500	1,25,000	2,50,000	3,75,000	6,25,000
Less: Taxes 40%	(25,000)	(50,000)	(1,00,000)	(1,50,000)	2,50,000)
EAT	**37,500**	**75,000**	**1,50,000**	**2,25,000**	**3,75,000**
No. of equity shares	3,12,500	3,12,500	3,12,500	3,12,500	3,12,500
EPS	**0.12**	**0.24**	**0.48**	**0.72**	**1.20**

Plan II: Debt - Equity Mix **(Amount in ₹)**

EBIT	62,500	1,25,000	2,50,000	3,75,000	6,25,000
Less: Interest	(1,25,000)	(1,25,000)	(1,25,000)	(1,25,000)	(1,25,000)
EBT	(62,500)	0	1,25,000	2,50,000	5,00,000
Less: Taxes 40%		0	(50,000)	(1,00,000)	(2,00,000)
Add. Tax saving	25,000				
EAT	**(37,500)**	**0**	**75,000**	**1,50,000**	**3,00,000**
No. of equity shares	1,56,250	1,56,250	1,56,250	1,56,250	1,56,250
EPS	(0.24)	(0)	0.48	0.96	1.92

Plan III:Preference shares - Equity mix **(Amount in ₹)**

EBIT	62,500	1,25,000	2,50,000	3,75,000	6,25,000
Less:Interest	0	0	0	0	0
EBT	62,500	1,25,000	2,50,000	3,75,000	6,25,000
Less:Taxes 40%	(25,000)	(50,000)	(1,00,000)	(1,50,000)	(2,50,000)
EAT	37,500	75,000	1,50,000	2,25,000	3,75,000
Less:Pref dividends	(1,25,000)	(1,25,000)	(1,25,000)	(1,25,000)	(1,25,000)
EAT for ordinary shareholders	**(87,500)**	**(50,000)**	**25,000**	**1,00,000**	**2,50,000**
No Equity shares	1,56,250	1,56,250	1,56,250	1,56,250	1,56,250
EPS	**(0.56)**	**(0.32)**	**0.16**	**0.64**	**1.60**

(ii) The choi ce of the financing plan will depend on the state of economic conditions. If the company's sales are increasing. the EPS will be maximum under plan II: Debt-Equity Mix. Under favourable economic economic conditions, debt financinf gives more benefit due to tax sheild availabilty than equity or preference financing.

(iii) EBIT - EPS Indifference Point: Plan I and Plan II

$$\frac{(EBIT) \times (1-t)}{N_1} = \frac{(EBIT - Interest) \times (1-t)}{N_2}$$

$$\frac{EBIT(1-0.40)}{3,12,500} = \frac{(EBIT - 1,25,000) \times (1-0.40)}{1,56,250}$$

$$EBIT = \frac{3,12,500}{3,12,500 - 1,56,250} \times 1,25,000 = ₹\ 2,50,000$$

EBIT - EPS Indifference Point: Plan I and Plan III

$$\frac{EBIT\ (1-t)}{N_1} = \frac{EBIT\ (1-t) - Pref.\ Div}{N_2}$$

$$EBIT = \frac{N_1}{N_1 - N_2} \times \frac{Pref.\ Div}{1-t}$$

$$= \frac{3,12,500}{3,12,500-1,56,250} \times \frac{1,25,000}{1-0.4}$$

$$= ₹\ 4,16,666.67$$

Ans. 8.1. Calculation of EPS (When only equity shares are issued)

	I	II	III
EBIT	40,00,000	80,00,000	1,00,00,000
Less: Interest on 12% Debt	(3,00,000)	(3,00,000)	(3,00,000)
EBT	37,00,000	77,00,000	97,00,000
Less : Tax @ 50%	(18,50,000)	(38,50,000)	(48,50,000)
EAT	18,50,000	38,50,000	48,50,000
No. of equity shares	18,00,000	18,00,000	18,00,000
[10 lakhs + 1Cr / 12.5]			
EPS	₹ 1.03	₹ 2.14	₹ 2.69
P/E ratio	5	5	5
MPS	5.15	10.70	13.45

2. Calculation of EPS (When only 14% debts are issued)

Particulars	I	II	III
EBIT 40,00,000	80,00,000	,00,00,000	
Less: Interest			
- on 12% debt	(3,00,000)	(3,00,000)	(3,00,000)
- on 14% debt	(14,00,000)	(14,00,000)	(14,00,000)
EBT 23,00,000	63,00,000	3,00,000	
Less Tax @ 50%	11,50,000)	(3150000)	(41,50,000)
EAT = EAE	11,50,000	31,50,000	41,50,000
No. of equity	1,00,000	10,00,000	10,00,000
EPS	1.15	3.15	4.15
P/E	4	4	4
MPS	₹ 4.60	₹ 12.60	₹ 16.60

3. Calculation of Indiffrence point

Plan A (Equity)		**Plan B (Debt)**
= $\frac{\text{(EBIT - interest) (1-t)}}{\text{NA}}$	=	$\frac{\text{(EBIT - interest) (1-t)}}{\text{NB}}$
= $\frac{\text{(EBIT - 30000) (1-0.5)}}{1800000}$	=	$\frac{\text{(EBIT - 1700000) (1-0.5)}}{1000000}$
= 10 EBIT - 30,00,000	=	18 EBIT - 3,06,00,000

8 EBIT = ₹ 2,76,00,000

EBIT = ₹ 34,50,000

CHAPTER NO . 4 COST OF CAPITAL

Ans.1. (i) 7.68% (ii) 9.52% (iii) 13% (iv)12%
(v) 10.75% and 11% and (vi) 19.18%

Ans.2. (a) 9.09% and 11.11% (b) 10.30% (c) 11.1%

Ans.3. In order to calculate the WACC, the specific cost of equity capital and debt are to be calculated as follows:

$$K_e = \frac{D_1}{P_0} + g = \frac{₹\ 2 \times 1.10}{₹\ 27.50} + 0.10 = 18\%$$

The market value of equity is 80,000 x ₹ 27.50 = ₹ 22,00,000

$$K_d = \frac{I}{B_0} = \frac{₹\ 12}{₹\ 80} = 15\%$$

The market value of debt is 4,00,000 x 0.80 = ₹ 3,20,000.
Now the WACC is (22,00,000/ 25,20,000) x 0.18 + (3,20,000/ 25,20000) x 0.15= 0.176 = 17.6%
Note: In this case, the dividend of ₹ 2 has just been paid so, D_0= ₹ 2 and D_1 i.e., dividend expected after one year from now will be D_0 x (1+ g) = ₹ 2 x1.10

Ans.4. **Return avaliable to equity Shareholders:**

Earnings before Interest and Taxes	₹ 9,00,000
- Interest	1,20,000
Profit before Tax	7,80,000
- Tax @ 40%	3,12,000
Profit for shareholder	4,68,000
- Pref. dividends	50,000
Earning for Equity shareholders	4,18,000
Market value of equity shares (1,60,000 x ₹ 12.50)	₹ 20,00,000

K_e = (Earnings ÷ Market Value) 20.9%
K_P = (₹ 50,000 ÷ 4,00,000) 12.5%
K_d = 0.12 (1- .4) 7.2%

WACC can be calculated as follows:

Source	Amount	Weight	C	W x C
Equity shares	₹ 20,00,000	.5882	.209	.1229
Pref. shares	₹ 4,00,000	.1176	.125	.147
12% Debentures	₹ 10,00,000	.2942	.072	.0212
	34,00,000	1		.1588

WACC = 15.88 %

Ans. 5. The present WACC and the proposed WACC of the firm may be ascertained as follows:

Cost of equity capital = K_e = $(D_1/P_0)+ g$
= (9/100) + .05
= .14 or 14%

It has been assumed that the equity shares, preference shares and the debentures are being traded at par.

Source	Weight	C/C	Weighted C/C	Weight	C/C	Weighted C/C
Equity shares	5/10	14%	7.00%	.5/15	14%	4.62%
Pref. share capital	2/10	9%	1.80%	.2/15	9%	1.26%
8.57% Debentures	3/10	6%	1.80%	.3/15	6%	1.20%
10% Loan (New)	----	----	----	5/15	7%	2.31%
WACC			10.60%			9.39%

So, the new WACC of the company would change from 10.60% (present level) to 9.39%

Working Note:

The new weights of different sources have been calculated as follows:

Equity (5/10-1/6) = 1/3 = 5/15
Preference share (2/10-1/15) = 2/15
12% Debentures (3/10 -1/10) = 1/5 = 3/15
Loan (New) (1/10 + 1/15 + 1/6) = 5/15.

Ans. 6. **Calculation of Specific cost of capital:**

H Limited

Earnings of H Ltd.	₹ 90,000
Less: Taxes @ 35%	31,500
	58,500
Less: Additional Tax on Dividend (20/120 x 53,000)	9,750
Earnings for equity shareholder	48,750

Cost of equity ,K_e = 48,750 ÷ 6,00,000 = 8.125%
Cost of debt is NIL, as the company has no debt in its capital structure.
Weighted average cost of capital = K0 = Ke= 8.125% (being unlevered company)

Z Limited:

Earnings of Z Ltd.	₹ 68,000
Less : Taxes @ 35%	23,800
	44,200
Less: Additional Tax on dividebd (20/120) x 44,000	7,367
Earnings for Equity share holders	36,833

Cost of equity = 36,833 ÷ 3,00,000 = .1227
Cost of debt = (22,000 ÷ 2,50,000) (1 - .35) = .0572
Ratio of Equity to Debt = Equity : Debt = 30: 25
Weighted Average Cost of capital
= $K_0 = K_d W_d + K_e W_e$
= [(0.1227) (30/55)+ [(0.0572) (25/55)]
= 0.06692 + 0.026
= 0.09292 or 9.29%

Ans .7. (i) Computation of the Weighted Average Cost of Capital

Source	Weight (W)	C / C	W x C / C
Equity share	0.5	15.09	7.54
10% Preference share	0.2	10.00	2.00
10% Debentures	0.3	6.00	1.80
Weighted Average Cost of Capital			11.34

(ii) Computation of revised Weighted Average Cost Capital

Source	W	C / C	W x C / C
Equity Shares	0.333	17.42	5.80
10% Preference share	0.134	10.00	1.33
10% Debentures	0.200	6.00	1.20
11.67% Loan	0.333	7.00	2.33
Revised Weighte d Average Cost of capital			10.66%

Working notes:

(1) Cost of Equity shares (K_e) (Present)

$$K_e = \frac{D_1}{P_0} + g$$

$$= \frac{10}{100} + 0.06$$

= 0.11509 or 15.09%

(2) Revised cost of Eqiuty shares (K_e)

$$\text{Revised } K_e = \frac{12}{105} + 0.06$$

= 0.1742 or 17.42%

Ans. 8.

Particulars	Result
1. Loan required = 25% of 20. lakhs	₹ 5,00,000
2. Interest on loan = (₹2,00,000 x 10%) + (₹ 3,00,00,000 x13%) = ₹ 20,000 + ₹39,000	₹ 59,000
3. $K_d = \frac{\text{Interest x (100\% - Tax Rate)}}{\text{Net Proceeds of Issue}} = \frac{₹ 59,000 \text{ x } (100\% - 30\%)}{₹ 5,00,000} =$	**8.26%**
4. $K_r = K_e = \frac{DPS_1}{MPS_0} + g = \frac{₹ 12 \text{ x } 50\% \text{ x } 10\% + 11\%}{₹ 60} + 10\% =$	**21.00%**
5. $K_0 = (K_d \text{ x } W_d) + (K_e \text{ x} W_e) = (8.2\% + \text{ x } 25\%) + 21\% \text{ x } 75\% =$	**17.82%**

Note: DPS 1 has bben considered in of Ke. Alternatively, Earnings - Growth model may also be applied.Shareholders Personal Tax Rate is not considered since Dividends are exepmt from Tax in their hands.

Ans.9. 1. Computation of cost of Additional Capital (Component wise)

1. (a) After Tax Cost of New Debt K_d = $\frac{\text{Interest x (100\% - Tax Rate)}}{\text{Net Prodeeds of Issue}}$ = $\frac{14 \times (100\% - 50\%)}{105.54}$ = **6.63%(Note1)**

1.(b) After Tax Cost of new Preference share capital **Kp** = $\frac{\text{Preference Dividend}}{\text{Net prodeeds of Issue}}$ = $\frac{₹\ 1.20}{₹\ 9.80}$ = 12.24%

1.(c) After Tax Cost of ordinary Equity k_e = $\frac{DPS}{MPS}$ + g ₹ 2.773 x 50% + 12% = 5% + 12% = **17.00% (Note 2)**

Note 1: Since Current 13% Debentures is selling at ₹ 98 (₹ 100 presumed as par value), the Company can sell 14% New Debentures at $\frac{14\% \times ₹\ 98}{13\%}$ = ₹105.54

Note 2: For computing **"g"** i.e., Growth Rate under Realised yeild Method, the past average Growth rate is taken at **12%**, in the following manner-

Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
EPS (₹)	1.00	1.120	1.254	1.405	1.574	1.762	1.974	2.211	2.476	2.773
Additional EPS	-	0.120	0.134	0.151	0.169	0.188	0.212	0.237	0.265	0.297
% increase in EPS	-	12.00%	11.96%	12.04%	12.03%	11.94%	12.03%	12.01%	11.99%	12.00%

Note : % Increase in EPS = $\frac{\text{Additional EPS}}{\text{Previous Year EPS}}$, e.g. $\frac{0.120}{1.000}$ etc

2. Marginal Cost of capital : Since the present Capital structure is optimum (Refer 1st sentence in the question), the additional funds will be raised in the same ratio in ored to maintain the capital structure. Hence , the Marginal Cost of Capital is 15.20%, computred as under:

Component	₹	%	Individual Cost	WACC
Debt	3,60,000	15%	K_d = 6.63%	0.99%
Preference Capital	1,20,000	5%	K_p = 12.24%	0.61%
Equity Capital	19,20,000	80%	K_e = 17.00%	0.13.60%
Total	**24,00,000**	**100%**	**WACC = K_o**	**15.20%**

Note : When K_d is taken at 7.14% K_o will be 15.28%.

3. Retained Earnings available for further investments = 50% of 2010 EPS
= 50% x ₹ 2.773 x 2,00,000 shares = **2,77,300**

Hence, amount to be used by way of retaned Earnings, before selling New Ordinary Shares : **₹ 2,77,300**

As Equity = 80% of Total funds, the Capital before issuing fresh equity shares = $\frac{₹\ 2,77,300}{80\%}$ = **₹ 3,46,625**

4. Computation of Revised Marginal Cost of Capital if Equity Issue is made at ₹ 20 per Share

Note: Revised Cost Ordinary Equity K_e = $\frac{DPS}{MPS}$ + g = $\frac{₹\ 2.773 \times 50\%}{₹20}$ + 12% = 6.93% + 12% = 18.93%

Component	₹	%	Individual Cost	WACC
Debt	3,60,000	15%	K_d= 6.63%	0.99%
Prefrence Capital	1,20,000	5%	K_p= 12.24%	0.61%
Equity Capital	19,20,000	80%	K_e= 18.93%	15.15%
Total	**24,00,000**	**100%**	**WACC = K_o =**	**16.75%**

Note : When K_d is taken at 7.14, Revised K_o Will be 16.82%

CHAPTER NO . 5 CAPITAL BUDGETING

Ans. 1. **Calculation of NPV**

Year	Machine A			Machine B		
	Cash flows	$PVF_{(7\%n)}$	PV (₹)	Cash flows	$PVF_{(7\%)}$	PV (₹)
0	- ₹ 1,00,000	1.000	-1,00,000	- ₹60,000	1,000	-60,000
1	20,000	.935	.18,700	- ₹ 60,000	.935	-56,100
2	60,000	.873	52,380	60,000	.873	52,380
3	40,000	.816	32,640	60,000	.816	48,960
4	30,000	.763	22,980	80,000	.763	1,040
5	20,000	.713	14,260	-----	----	----
NPV			40,870			46,280

Machine B is having higher : NPV and may be selected.

Ans.2. Since there is no tax , the annual income befo re depreciation and after other changes is equivalent to cash Flows (CF).

(a) Capital outlay of ₹ 2,00,000 is recovered in the first two years, ₹ 1,00,000 (year + 1) + ₹1,00,000 (year 2), therefore, the payback period is two years.

(b) Rate of return on original investment.

Year	Income (₹)	Depreciation (₹)	Net Income (₹)
1	1,00,000	40,000	60,000
2	1,00,000	40,000	60,000
3	80,000	40,000	40,000
4	80,000	40,000	40,000
5	40,000	40,000	-
			2,00,000

Average Income = ₹ 2,00,000 / 5 = ₹ 40,000

$$\text{Rate of Return} = \frac{\text{Average income}}{\text{Original investment}} \times 100$$

$$= \frac{₹\ 40,000}{₹\ 2,00,000} \times 100 = 20\%$$

Ans. 3. **Internal Rate Return:**

Cost = ₹ 10,000

Calculation of IRR:

Year	Cash inflows	$PVF_{(10\%n)}$	PV(₹)	$PVF_{(11\%n)}$	PV(₹)
1	₹1,000	0.909	909	.901	901
2	1,000	.826	826	812	812
3	2,000	.751	1,502	.731	1,462
4	10,000	.683	6,830	.659	6,590
Total PV inflows			10,067		9,765
NPV of the Proposal			67		-235

IRR may be found by interpolation between 10% and 11% as follows:

$$IRR = 10\% + \frac{67}{67 - (-237)} \times (11-10)$$

$$= 10\% + .22 = 10.22\%$$

As the opportunity cost of the firm is 14 %, the project having IRR of 10.22 should be rejected.

Ans. 4. **Calculation of NPV:**

Year	CF (₹) X	CF (₹) Y	$PVF_{(10\%,n)}$	Total PV (₹) X	Total PV (₹) Y
1	10,000	50,000	0.909	9,090	45,450
2	20,000	40,000	0.826	16,520	33,040
3	30,000	20,000	0.751	22,530	15,020
4	45,000	10,000	0.683	30,735	6,830
5	60,000	10,000	0.621	37,260	6,210
Total PV				1,16,135	1,06,550
Less cash outflow				1,00,000	1,00,000
NPV				16,135	6,550
PI= (PV of Inflows / PV of outflows)				1.161	1.065

Calculation of IRR :

Project X

Year	CF(₹)	PV Factors 14%	PV Factors 15%	Total PV (₹) 14%	Total PV (₹) 15%
1	10,000	0.877	0.870	8,770	8,700
2	20,000	0.769	0.756	15,380	15,120
3	30,000	0.675	0.658	20,250	19,740
4	45,000	0.592	0.572	26,640	25,740
5	60,000	0.519	0.497	31,140	29,820
				1,02,180	99,120

Project Y

Year	CF(₹)	PV Factor 13%	PV Factor 14%	Total PV(₹) 13%	Total PV(₹) 14%
1	50,000	0.885	0.877	44,250	43,850
2	40,000	0.783	0.769	31,320	30,760
3	20,000	0.893	0.675	13,860	13,500
4	10,000	0.613	0.592	6,130	5,920
5	10,000	0.543	0.519	5,430	5,190
				1,00,990	99,220

By interpolation between 13% and 14%, the IRR comes 13.56%. The results of the above calculations may be summerized as follows:

	Project X	Project Y
NPV	₹ 16,130	₹ 6,550
PI	1.161	1.065
IRR	14.71%	13.56%

Ans. 5.

1.	**Cash Outflows**		
	Cost of new machine	₹ 20,00,000	
	- Scrap value of old	1,00,000	₹ 19,00,000
2.	**Cash Inflow (Annual):**		
	Net savings in variable costs		₹ 7,00,000
	- Tax @ 40%		2,80,000
	Net benefit		4,20,000
3.	**Cash Inflow at the end of year 5:**		
	Salvage value of new		₹ 2,00,000
4.	Calculation of NPV:		
	Cash outflow at year 0		₹ - 19,00,000
	Cash inflow:4,20,000 x 3.605 (i.e., $PVAF_{(12\% 5y)}$)		15,14,100
	:2,00,000 x .567 (i.e., $PVF_{(12\%5y)}$)		1,13,400
	Net Present value		- 2,72,500

As the NPV of the new machine is negative, the firm need not replace the old machine with the new machine.

Ans.6. **(a) Payback Period Method**

A = 5 + (500 /900) = 5.5 years

B = 5 + (500/1200)= 5.4 years

C = 2 + (1000/2000) = 2.5 years

Net Present Value

NPV_A = (-5000) + (900 x 6.145) = (5000) + 5530.5 = ₹ 530.5

NPV_B is calculated as follows:

Year	Cash flow (₹)	10% discount factor	Present value (₹)
0	(5000)	1.000	(5,000)
1	700	0.909	636
2	800	0.826	661
3	900	0.751	676
4	1000	0.683	683
5	1100	0.621	683
6	1200	0.564	677
7	1300	0.513	667
8	1400	0.467	654
9	1500	0.424	636
10	1600	0.386	618
			1591

Internal Rate of Return

NPV at 12 % = (5000) + 900 x 5.650

= (5000) + 5085 = 85

NPV at 13% = (5000) + 900 x 5.426

= (5000) + 4883.40 = -116.60

IRR_A = $12 + \left(\frac{85}{85+ 116.60}\right) x$ (13-12) = 12+ 0.42

IRR_A = 12.42%

IRR_B

Year	Cash Flow (₹)	10% discount factor	Present value (₹)	20% discount factor	Present value (₹)
0	(5,000)	1,000	(5,000)	1.000	(5,000)
1	700	0.909	636	0.833	583
2	800	0.826	661	0.694	555
3	900	0.751	676	0.579	521
4	1,000	0.683	683	0.482	482
5	1,100	0.621	683	0.402	442
6	1,200	0.564	677	0.335	402
7	1,300	0.513	667	0.279	363
8	1,400	0.467	654	0.233	326
9	1,500	0.424	636	0.194	291
10	1,600	0.386	618	0.162	259
			1,591		(776)

Interpolating: IRR = 10 + 1,591 x10 = 10 + 6.72 = 16.72 per cent

IRRc

Year	Cash Flow (₹)	15% discount factor	Present value (₹)	18% discount factor	Present value (₹)
0	(5,000)	1.000	(5,000)	1.000	(5,000)
1	2,000	0.870	1,740	0.847	1,694
2	2,000	0.756	1,512	0.718	1,436
3	2,000	0.658	1,316	0.609	1,218
4	1,000	0.572	572	0.516	516
			140		(136)

Interpolating: $IRR_c = 15 + \frac{140 \times 3}{(140 + 136)} = 15 + 1.52 = 16.52$ per cent

Accounting Rate of Return

ARR_A: Average capital employed $= \frac{5,000}{2} =$ ₹ 2,500

Average accounting profit $= \frac{(9,000 - 5,000)}{10} =$ ₹ 400

$ARR_A = \frac{(400 \times 100)}{2,500} = 16$ per cent

ARR_B = Average accounting profit $= \frac{(11,500 - 5,000)}{10} =$ ₹ 650

$ARR_B = \frac{(650 \times 100)}{2,500} = 26$ per cent

ARR_c = Average accounting profit $= \frac{(7,000 - 5,000)}{4} =$ ₹ 500

$ARR_c = \frac{(500 \times 100)}{2,500} = 20$ per cent

(b) Summary of Results

Project	A	B	C
payback (years)	5.5	5.4	2.5
ARR (%)	16	26	20
IRR (%)	12.4	16.7	16.5
NPV (₹)	530.5	1,591	657

Comparison of Rankings

Method	Payback	ARR	IRR	NPV
1	C	B	B	B
2	B	C	C	C
3	A	A	A	A

Ans. 7(i) Expenditure at year zero (₹ in lakhs)

Particulars	A	B
Cost of machine	5.00	5.00
Cost of utilities	1.00	2.00
Salvage of Old Machine	(1.00)	(1.00)
Salvage of Old utilities	-	(0.20)
Total Expenditure (Net)	5.00	5.80

(ii) Discounted Value of Cash inflows

(₹ in lakhs)

Year	NPV Factor @ 15%	Machine A		Machine B	
		Cash Inflows	Discounted value of inflows	Cash Flows	Discounted Value of inflows
0	1.00	(5.00)	(5.00)	(5.80)	(5.80)
1	0.87	1.00	0.87	2.00	1.74
2	0.76	1.50	1.14	2.10	1.60
3	0.66	1.80	1.19	1.80	1.19
4	0.57	2.00	1.14	1.70	0.97
5	0.50	1.70	0.85	0.40	0.20
salvage	0.50	0.50	0.25	0.60	0.30
			5.44		6.00
Net Present Value			(+) 0.44		(+) 0.20

Since the Net present Value of both the mmachine is positive both are acceptable.

(iii) Discounted Pay-back Period

(₹ in lakhs)

Year	Machine A		Machine B	
	Discounted cash inflows	Cumlulative Discounted cash inflows	Discounted cash inflows	Cumulative Discounted cash inflows
0	(5.00)	-	(5.80)	-
1	0.87	0.87	1.74	1.74
2	1.14	2.01	1.60	3.34
3	1.19	3.20	1.19	4.53
4	1.14	4.34	0.97	5.50
5	1.10*	5.44	0.50	6.00

* Includes salvage value

Discounted Pay back period (For A and B):

4 years + $\frac{(0.66)}{1.10}$ x 1 = 4.6 years 4 years + $\frac{(0.30)}{0.50}$ x 1 = 4.6 years

Profitability Index : $\frac{\text{Sum present value of net cash inflow}}{\text{Initial cash Outlay}}$

$\frac{₹\ 5.44 \text{ lakhs}}{₹\ 5.00 \text{ lakhs}}$ = 1.08 (A) $\frac{₹\ 6.00 \text{ lakhs}}{₹\ 5.80 \text{ lakhs}}$ = 1.034 (B)

(iv) Since the absolute surplus in the case of A is more than B and also the desirably factor, it is better to choose A .

The discounted payback period in both cases is same, also the net present value is positive in both the cases but the disirability factor (Profitablity index) is higher in the case of Machine A, it is therefore better to choose Machine A.

Ans.8.1. **Given** (a) Initial Investment = ₹ 80,000, (b) Project life = 8 years and (c) Cost of capital = 10%

2. Depreciation p.a. (assuming SLM) = $\frac{₹\ 80,000 - ₹\ 6,000}{8 \text{ years}}$ = ₹ 9,250

3. Computation of Additional CFAT p.a from New Machine :

	Particulars	Computation	₹
	Gross Revenue	Given	40,000
Less:	Operating Costs, i.e., Cash Expenses	Given	-7,500
	Non- Cash, i.e. Depreciation	WN 2	-9,250
	EBT		23,250
Less:	Tax	Assumed 40%	-9,300
	EAT		13,950
Add:	Depreciation	WN 2	-9,250
	CFAT	(EAT + Depreciation)	23,200
Less:	Post-Tax Commission Income from existing operation	Given	- 12,000
	Additional CFAT p.a.by purchasing new Diagnostic Machine		**11,200**

4. Computation of Discounted Cash Flows, NPV and PI

Year	Cash Flow	Disc. Factor at 10%	DCFAT
1-8	Additional CFAT p.a= 11,200	(0.909 +0.826 +0.751 +0.683 +0.621+ 0.564+ 0.513 + 0.467)	59,741
8	Salvage Value of M/c = 6,000	0.467	2,802
	Total DCFAT		62,543
Less:	Initial Investment		- 80,000
	Net Present Value		**(17,457)**
	Probability Index	₹ 62,543 / ₹ 80,000	0.78

Conclusion: The purchase ofnew Diagnostic Machine is **not worthwhile,** since NPV is **negative**, and PI is **less than 1.**

Ans. 9. 1. Computation of CFAT of the Drying Equipment

Year	1	2	3	4	5
(a) Cash Inflows before Tax (given)	2,40,000	2,75,000	2,10,000	1,80,000	1,60,000
(b) Depreciation ₹6,00,000 / 5 years	1,20,000	1,20,000	1,20,000	1,20,000	1,20,000
(c) Profit before Tax (a-b)	1,20,000	1,55,000	90,000	60,000	40,000
(d) Tax at 35%	42,000	54,250	31,8500	21,000	14,000
(e) Profit after Tax (c-d)	**78,000**	**1,00,000**	**58,500**	**39,000**	**26,000**
(f) Add back: Depreciation	1,20,000	1,20,000	1,20,000	1,20,000	1,20,000
Working Capital Inflow	-	-	-	-	80,000
(g) Cash flow after Tax (CFAT)	**1,98,000**	**2,20,750**	**1,78,500**	**1,59,000**	**2,26,000**

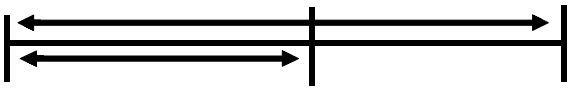
2. Computaion of NPV, IRR and Payback periods

Year	CFAT	Cum CFAT	PVF 12%	DCFAT12%	Cum DCFAT 12%	PVF14%	DCFAT 14%
1	1,98,000	1,98,000	0.8929	1,76,794	1,79,794	0.8772	1,73,686
2	2,20,750	4,18,750	0.7972	1,75,982	3,52,776	0.7695	1,69,867
3	1,78,500	5,97,250	0.7118	1,27,056	4,79,832	0.6750	1,20,488
4	1,59,000	7,56,250	0.6355	1,01,045	5,80,877	0. 5921	94,144
5	2,26,000	9,82,250	0.5674	1,28,232	7,09,109	0.5194	1,17,384
	9,82,250	Total DCFAT		**7,09,109**			**6,75,596**
		Less: Initial Investment		6,80,000			6,80,000
		Net Present value		**29,109**			**(4,431)**

(a) Simple Payback period

From Cumulative CFAT Column, it is observed that Initial Investment is exceeded between Year 3 & year 4. Hence, the Si mple Pay back period is as under-

Year 3 ₹ 1,59,000 for 12 months Year 4



₹ 5,97,250 ₹ 6,80,000 7,56,250

(initial Investment)

Proportionate Time for earning (6,80,000 - 5,97,250) =

₹ 89,750 = $\frac{₹\ 82,750}{₹\ 1,59,000}$ x 12 = **6.25 months** (approx.).

So, **Simple Payback petriod = 3 years, 7 months.**

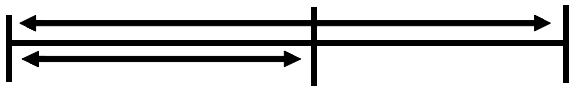
Alternatively, simple Payback period can also be expressed

as 3 + $\frac{₹\ 82,750}{₹\ 1,59,000}$ = 3.52 years.

(b) Discounted pay back Period

From Cumlative DCFAT (at 12%) Column,it is observed that Initial Investment is exceeded between Year 4 & Year 5. Hence, the Discounted payback periodis as under-

Year 4 ₹ 1,28,232 for 12 months Year 5



₹ 5,80,877 ₹ 6,80,000 ₹ 7,09,109

(Initial Investment)

Proportionate Time for earning (6,80,000 - 5,80,877) =

₹ 99,123 = $\frac{₹\ 99,123}{₹\ 1,28,232}$ x 12 = 9.3 months (approx.).

So, Discounted payback period = 4 years, 10 months.

Alternatively, discointed payback period can also be expressed as

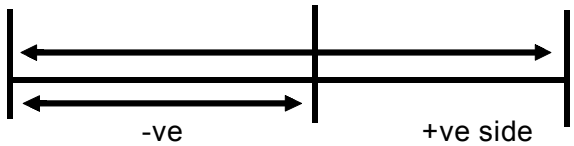
4 + $\frac{₹\ 99123}{₹\ 1,28,232}$ = **4.77 years**

Note : project A is preferable due to **higher NPV, higher PI** and **shorter payback period.**

(c) Computation of IRR

From the above, i.e., with one will +ve NPV and -ve NPV, is IRR is estimated using the number line , as under-

14% change in NPV = + 29,109 to - 4,431 = 33,540 for 2% 12%



-ve +ve side

NPV = - 4,431 NPV = 0 (Zero) NPV = +29,109

Rate Change for ` 4431 Rate Change for ₹ 29,109

= ₹ 4,431 x 2%= **0.26%** = ₹ 29,109 x 2% = **1.74 %**

₹ 33,540 ₹ 33,540

IRR = 14% - 0.26% = **13.74% (or) IRR** = 12% +1.74% = **13.74%**

(d) Computation of NPV

- NPV is always calculated at the Company's Cost of Capital, i.e, 12% in this case= + ₹ 29,109
- The other NPV at 14 % is only for the limited purpose of estimation of IRR with one +ve and one - ve NPV. Instead of 14 %, we may also take 15% discount rate for IRR estimation.

Conclusion: Since NPV (at 12%) > 0, and IRR (13.74%) > k_o (12%), the Proposal is worthwhile.

Ans.10. **1. Computation of CFAT**

Particulars	Existing Machine	New Machine
(a) Initial Investment	(Old M/c already available) Hence, Nil	(see Note) = ₹ 8,00,000
(b) Life	Balance 8 years	8 years
(c) Depreciation	$\frac{3,30,000}{11 \text{ years}}$ = ₹ 30,000	$\frac{10,00,000 - ₹\ 40,000}{8 \text{ years}}$ = 1,20,000
(d) selling Price Less Materials Cost	₹ 15 - ₹ 4 = ₹ 11 p.u	₹ 15 - ₹ 4 = ₹ 11p.u.
(e) Quatity	30,000 units	75,000 units
(f) Total Contribution (d x e)	₹ 3,30,000	8,25,000
(g) Labour Cost	3,000 hrs at ₹ 40 ph = ₹ 1,20,000	3,000 hrs at 70Ph = ₹ 2,10,000
(h) indirect Cost	₹ 50,000	₹ 65,000
(i) EBT (f- g- h-c)	₹ 1,30,000	₹ 4,30,000
(j) Tax at 30% on EBT	₹ 39,000	₹ 1,29,000
(k) EAT (i-j)	₹ 91,000	₹ 3,01,000
(l) CFAT (k+ c)	₹ 1,21,000	₹ 4,21,000

Hence, additional CFAT of new machine = 4,21,000 - ₹ 1,21,000 = **₹ 3,00,000 P.a.**

Note: Purchase of new M/c automatically means that the Old M/c will be sold immediately now. Hence the Net Initial Cash Outflow = Purchase Price of new M/c ₹ 10,00,000 Less Present Sale value of Old M/c ₹ 2,00,000.

2. Computation of Incremental NPV on replacement

Particulars	Years	Disc.Factor at 12%	cash flow	Disc. Cash Flow
Additional CFAT	1-8	4.968	3,00,000	14,90,400
Additional Salvage	8	0.404	40,000	16,160
		Additional discounted cash inflows		15,06,560
	Less:	Additional Initial Investment		- 8,00,000
		Additional NPV		7,06,560

Conclusion: It is advisable to purchase the new machinery, since additional NPV is positive

CHAPTER NO . 7 ESTIMATION OF WORKING CAPITAL

Ans. 1. **Statement of probability at 90% capacity**

Units (at 90% capacity	54,000
Sales (54,000 x ₹ 10) (A)	₹ 5,40,000
Cost:	
Raw material (54,000x ₹ 4)	2,16,000
Wages (54,000 x₹ 2)	1,08,000
Variable overhead (54,000 x ₹ 2)	1,08,000
Fixed overhead (₹ 1 x 36,000)	36,000
Total Cost (B)	4,68,000
Net [profit (A- B)	72,000

Statement of Working Capital Requirement

A.	**Current Assets**		
	Stock of raw materials (2 months x 4,500 x ₹ 4)		₹ 36,000
	Work - in progress:		
	Materials (1 montyh x 4,500 x ₹ 4)	₹ 18,000	
	Wages (1/2 month)	4,500	
	Overheads (1/2 month)	6,000	28,500
	Finished goods (2 months)		78,000
	Debtors [2 months x (4,68,000 / 12)		78,000
	Total Current Assets		2,20,500
B.	**Current Liabilities**		
	Sundary creditors (3 months)		54,000
	Outstanding wages(1 month)		9,000
	Outstanding overhead (1 month)		12,000
	Total Current liabilities		75,000
	Working capital requirement		1,45,500

Working Note:

Overhead and wages - The work in progress period is one month. So, the wages and overheads included in work-in- progress, are on an average, for half month or 1/24 of year.

$$\text{Wages} = \frac{₹\ 1,08,000}{24} = ₹\ 4,500$$

$$\text{Overhead} = \frac{₹\ 1,08,000 + 36,000}{24} = ₹\ 6,000$$

The valuation of finished goods can also be arrived at as follows:

Number of units	=	4,500 x 2 = 9,000
Variable cost	=	₹ 8 per units
Fixed cost (₹ 36,000 /12) X 2	=	₹ 6,000
Total cost of finished goods (9,000 x 8) + 6,000	=	₹ 78,000

As the decision to increase the operating capacity from 60% to 90% is already taken, it has been assumed that the opening balance o0f raw materials, work in progress finished goods have already been brought to the desired level. Consequently, goods purchase during the period will be only for the production requirement and not for incressing the level of stock.

Ans. 2. The comparative statement of working capital requirement may be prepared sa under:

Statement of working Capital Requirement

	Current Year		Next Year	
Current Assets:				
Raw Material	(2,000 X6 X3)	₹ 36,000	(4,000 X 5.40 X 3)	`64,800
Work in Progress:				
Raw Material	(2,000 x 6 X 1)	12,000	(2,000 X 5.40 x 1)	10,800
Wages - Variable	(2,000 x 3 x 50%)	3,000	(2,000 X 3 X 50%)	3,000
- Fixed	(4,000 x 50%)	2,000	(4,000 x 50%)	2,000
Finished goods	(3,84,000 ÷ 24,000) x 4,500	72,000	(5,95,200 ÷ 48,000)9,000	1,11,600
Debtors	(3,84,000 ÷ 12) x 3	96,000	(5,95,200 ÷ 12) x 3	1,48,800
		2,21,100		3,41,000
Current Liabilities:				
Creditors	(2,000 x 2 x 6)	24,000	(4,000 x 2 x 5.40)	43,200
Wages	(72,000 + 48,000) ÷ 24	5,000	(1,44,000 + 48,000) ÷ 24	8,000
Overheads	(24,000 + 96,000) ÷ 24	5,000	(48,000 + 96,000) ÷ 24	6,000
		34,000		57,200
Working Capital (CA - CL)	1,87,000		2,83,800	

Assumptions:

(i) Debtors are taken at cost price

(ii) As work in progress is consisting of prime cost (i.e., Material + Labour), it is valued at 100% material and 50% wages.

You are required to find out the Net Operating Cycle. Also make an estimate of working capital requirement for goods as well as for other expenses. What is the ratio of working capital requirement to total cash operating expenses during the year (360 days a year).

Ans. 3. Refer to Practice manual

Ans. 4. Calcutation of net Operation of Cycle period of XYZ Ltd.

	Days
Raw material storage peiod :	30
$\left(\frac{\text{Average stock of raw material}}{\text{Average Cost of Raw material Consumption per day}}\right)$	
(₹ 50,000 / 1667*)	
*(₹ 6,00,000/360 days)	
W.I.P. holding period : (b)	
$\left(\frac{\text{Average work - in Progress inventory}}{\text{Average Cost of Production per day}}\right)$	22
(₹ 30,000 / 1,388)**	
**(₹ 5,00,000/360 days)	
Finished goods storage period :(c)	
$\left(\frac{\text{Average Stock of finished goods}}{\text{Average cost of good sold per day}}\right)$	18
(₹ 40,000/2,222)***	
***(₹ 8,00,000/360 days)	
Debtors collection period : (d)	45
Total Operating Cycle period :	115
[(a) + (b) + (c) + (d)]	
Less: average Credit period availed	30
(i) Net Operating cycle period	85
(ii) Number of Operating cycles in a year	4.2
	(360 days/ 85 days)

Ans. 5. Statement of working Capital Requiremnets (Cash Cost Approach)

Particulars	Computation	₹
A. Current Assets		
Raw material (bsed on RM Consumed)	₹ 6,00,000 x 1/12	50,000
Finished Goods strock (based on Cash COP)	(₹ 6,00,000 +₹4,80,000 + ₹ 6,00,000) x 1/12	40,000
Debtors (based on sales Less Profit & Deprn)	(₹ 24,00,000 - ₹ 2,55,000 + ₹ 2,40,000) x 2/12	3,17,500
Prepaid Sales Promotion Expenses (given)	₹ 75,000 / 4	18,750
Cash And bank balance	Given	80,000
Total		**6,06,250**
B. Current LiabilitiesCreditors	(Based on RM consumed) ₹ 6,00,000 x 2/12	1,00,000
Wages payable (given)	₹ 4,80,000 x 1/12	40,000
Manufacturing OH Payable (given)	₹ 6,00,000 x 1/12	50,000
Administration	₹ 1,50,000 x 1/12	12,000
Total	2,02,500	
C. Net Working Capital	**A - B**	4,03,750
D. Safely Margin	10% on ₹ 4,03,750	40,375
E. Required working Capital	**C + D**	4,44,125

CHAPTER NO . 8 RECEIVABLES MANGEMENT

Ans. 1. Statement showing Evaluation of the Proposed Credit Policies

(Amount ₹ in Lakhs)

	Credit Policies				
		Proposed			
	Present	**I**	**II**	**III**	**IV**
Average Collection Period (days)	(20 days)	(30 days)	(40 days)	(50 days)	(60 days)
Sales (Annual)	60.00	65.00	70.00	74.00	75.00
Less: Variable cost (70% sales)	42.00	45.50	49.00	51.80	52.50
Contribution	18.00	19.50	21.00	22.20	22.50
Less: Fixed Costs	8.00	8.00	8.00	8.00	8.00
Profit	10.00	11.50	13.00	14.20	14.50
Increase in profit compared to Present Profit: (A)	-	1.50	3.00	4.20	4.50
Investment in debtors (Variable cost + Fixed cost)	50.00	53.50	57.00	59.80	60.50
Debtors turnover (360 days / Average collection period)	18	12	9	7.2	6
Average investment in debtors (Investment in debtors / Debtors turnover)	2.78	4.46	6.33	8.3	10.08
Additonal investment in debtors compared to present level	-	1.68	3.55	5.52	7.30
Required return on additional Investment (25%) : (B)	-	0.42	0.89	1.38	1.83
Incremental profit: (A) - (B)	-	1.08	2.11	2.82	2.67

Decision: The Company should be adopt the credit policy III (with collection period of 50 days) as it yields a maximum profit to the company.

It is assumed that Debtors are valued on Total Coat.

Ans. 2. Computation of contribution and extra funds blockage if the credit period allowed to customers is increased from one month to two months

Increase in sales units (8% x 21 units)	1,680
Contribution per unit (₹)	15
Total contribution on increased sales units (₹) : (A) (₹1,680 units x ₹ 15)	25,200
Total cost (₹) 21,000 units x ₹ 35	7,35,000
Additional variable cost of 1,680 units (₹) (1,680 units x ₹ 25)	42,000
Total cost (₹)	7,77,000
Funds blocked for 2 months (₹) (₹ 7,77,000 / 12 months) x 2 month	1,29,500
Less:Present blockage of funds for 1 montrh (₹) (₹ 7,35,000 / 12months) x 1 month	61,250
Extra blockage of funds (₹) due to change in credit policy	68,250

= contribution on increased sales x 100

Extra funds blockage due to change in credit policy

$$= \frac{\text{Contribution on increased sales}}{\text{Extra funds blockage}}$$

(due to change in credit policy)

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

Advise: The return due to change in the credit policy comes to 36.92%, which is more than the desired return of 25%. Hence, the proposal of incresing the credit period from one month to two months should be accepted.
Debtors are valued on Total Cost.

Ans. 3. Evaluation of Credit Policy

Working Notes:

(i) Calculation of Cash Discount

Cash Discount = Total credit sales x % opf customers who take up discount x Rate

$$\text{Present policy} = \frac{12,000 \times 50 \times .01}{100} = ₹\ 6,000$$

Proposed Policy = 16,00,000 x 0.80 x 0.02 = ₹ 25,000

(ii) Opportunity cost of Investment in Receivables

Present Policy = 9,36,000 x (30/ 360) x (70% of 15) /100 = 78,000 x 10.5/ 100 = ₹ 8,190

Proposed policy = 12,48,000 x (20/360) x 10.50 / 100 = ₹ 7,280

Statement Showing Evaluation Of Credit Policies

Particulars	Present Policy	Proposed policy
Credit sales	12,00,000	16,00,000
Variables Cost @ 78% of sales	9,36,000	12,48,000
Bad debts @ 1.5% and 2%	18,000	32,000
Cash Discount	6,000	25,600
Profit before tax	2,40,000	2,94,400
Tax @ 30%	72,000	88,320
Profit after Tax	1,68,000	2,06,080
Opportunity cost of Investment in Receivables	8,190	7,280
Net Profit	1,59,810	1,98,800

Advise: Proposed Policy should be adopted sinnce the net benefit is increased by (₹ 1,98,800 - ₹ 1,59,810) ₹ 38,990.

Debtors are valued on Variable Cost

Ans. 4. (a) Evaluation of Aletrnative Collection Programmes

	Present programme ₹	1st Programme ₹	2nd Programme ₹
Sales revenues	25,00,000	25,00,000	25,00,000
Average collection period (days)	50	40	30
Receivables (₹)	3,42,466	2,73,973	2,05,479
	$25,00,000 \times \frac{50}{365}$		
Reduction in recievables from present level (₹)	-	68,493	1,36,987
Saving in interst @ 15%p.a (A)	-	₹ 10,274	₹ 20,548
% of bad debts loss	5%	4%	3%
Amount(₹)	1,25,000	1,00,000	75,000
Reduction in bad debts from present level (B)	-	25,000	50,000
Incremental benefits from present level (c) = (A) + (B)	-	35,274	₹ 70,548
Collection expenses (₹)	25,000	50,000	80,000
Incremental Collection expenses from present (D)	-	25,000	55,000
Increment net benefit (C-D)	-	₹ 10,274	₹ 15,548

Conclusion: The company is advised to go for programme II as it will increase the profit by ₹15,546

Ans. 5. Evaluation of policies

Credit Policy	Present	A	B	C	D
Average collection period	30	45	60	75	90
Annual Sales	50	56	60	62	63
Contribution 20% on sales(₹ lakhs)	10.00	11.20	12.00	12.40	12.60
Incremental contribution (₹ lakhs)	-	1.20	2.00	2.40	2.60
Average sales x credit Average debtors $\left(\frac{\text{Annual sales}}{360}\right)$ x credit Period (₹ lakhs)	4.17	7.00	10.00	12.92	15.75
Investment in debtors at variable costs 80% (₹ lakhs)	3.34	5.60	8.00	10.34	12.60
Incremental Investment in debtors (₹ lakhs)	-	2.26	4.66	7.00	9.26
Requirement return on incremental debtors @20 % (₹ lakhs)	-	0.45	0.93	1.40	1.85
Excess of incremental contribution over Incremental return (₹ lakhs)	-	0.75	1.07	1.00	0.75

Recommendation: since excess of incremental contribution over incremental returns is maximum i.e, 1.07 lakhs, when the average collection period is 60 days, therefore, Creditpolicy B should be adopted.

CHAPTER NO . 9 FUND FLOW STATEMENT

Ans. 1. **1. Schedule of changes in working Capital**

Particulars		31.03.2013	31.3.2014	Increase	Decrease
A. Current Assets:	Stock	4,80,000	8,50,000	3,70,000	-
	Debtors	6,00,000	7,98,000	1,98,000	-
	Prepaid Expenses	50,000	40,000	-	10,000
	Cash and Bank balances	1,40,000	17,73,000	5,68,000	65,000
	Sub- total Current Assets	**12,70,000**	**17,73,000**	**5,68,000**	**65,000**
B. Current Liabilities:	Creditors	4,00,000	5,80,000	1,80,000	-
	Outstanding Expenses	20,000	25,000	5,000	-
	Provision for taxation	1,00,000	1,20,000	20,000	-
	Sub- total Current Assets	**5,20,000**	**7,25,000**	**2,05,000**	**-**
C. Net working Capital		7,50,000	10,48,000	3,63,000	65,000
Adjustment:	**Increase in working Capital**	**2,98,000**	**-**		**2,98,000**
	Total	**10,48,000**	**10,48,000**	**3,63,000**	**3,63,000**

2. (a) Investment A/c

Particulars	₹	Particulars	₹
To balance b/d - opening balance (given)	4,00,000	By Bank (Sale proceeds) (given)	45,000
To Genral Reserve (Pft on sale transfer)	17,000	By balance c/d -closing balance (given)	3,72,000
Total	**4,17,000**	**Total**	**4,17,000**

(b) Plant and Machinery A/c

Particulars	₹	Particulars	₹
To balance bld - Opg balance (given)	18,00,000	By Bank (Sale Proceeds of M/c) given	50,000
To Bank - New m/c purchased (given)	3,00,000	By P&L (Loss on sale of Machine)	20,000
		(1,45,000 - 75,000, - 50,000)	
		By P& L A/c (Deprn for the year) (bal. fig.)	2,80,000
		By balance c/d - Closing balance (given)	17,50,000
Total	**21,00,000**	**Total**	**21,00,000**

(c) Depreciation of Buildings during the year= Closing Bal. **less** Opening bal.= ₹15,00,000- ₹14,00,000= **₹ 1,00,000**

(d) Transfer to General Reserve out of current profit = **₹** 4,50,000 - **₹** 4,00,000- Invt transfer **₹** 17,000 = **₹ 33,000**

(e) Amount paid on redemption of debentures = (**₹** 10,00,000 - **₹** 8,00,000) +20% Premium = **₹ 2,40,000.**

3.Computation of Funds from Operatios by preparing the Adjusted P& L Account-

Particulars	₹	Particulars	₹
To Loss on sale of Machinery	20,000	By balance b/d - Opening balance (given)	2,50,000
To Depereciation on Plan & Machinery	2,80,000		
To Depreciation on Buildings	1,00,000		
To premium on Redemption of Debentures	40,000		
To Tranfer to General Reserve	33,000		
To Proposed Dividend	3,60,000	By Funds from Operations **(bal. fig)**	**9,43,000**
To balance c/d - Closing balance (given)	3,60,000		
Total	**11,93,000**	**Total**	**11,93,000**

4.Statement of sources and Application of Funds (Funds Flow Statement)

Sources of funds	₹	Application of Funds	₹
Funds from operations	9,43,000	Increase in Working Capital	2,98,000
Bank (Long Term)	1,00,000	Purchase of new Machinery	3,00,000
Sale of Old Machinery	50,000	Redemption of Debetures at Premium	2,40,000
Sale of Investment	45,000	Dividend Paid (Fin. Year 2012 - 13)	3,00,000
Total	**11,38,000**	**Total**	**11,38,000**

Ans.2. 1. Statement of Changes in Working Capital

Particulars		31.3.2013	31.3.2014	Increase	Decrease
A. Current Assets:	Stock	2,25,000	3,03,750	78,750	
	Debtors(Net)	2,53,125	2,75,625	22,500	
	Bills Receivable	45,000	73,125	28,125	
	Prepaid Expenses	11,250	13,500	2,250	
Sub- total Current Assets		**5,34,375**	**6,66,000**	**1,31,625**	
B. Current Liabilities:	Accrured Expenses	11,250	13,500	2,250	
	Creditors	1,80,000	2,94750	1,03,500	
Sub- total Current liabilities		**1,91,250**	**2,94,750**	**1,03,500**	
C. Net working Capital		3,43,125	3,71,250	**28,125**	
Adjustment: Increase in working Capital		**28,125**	**-**		**28,125**
Total		**3,71,250**	**3,71,250**	**28,125**	**28,125**

2. (a) Increase in share Capital = ₹ 7,87,500 - ₹ 6,75,000 = ₹ 1,12,500 **(Source of Fund)**

(b) Sale proceeds of Investment = Cost + Profit = ₹90,000 + ₹11,250 = ₹1,01,250. **(source of fund)**

(c) Redemption of Debentures = (₹ 3,37,500 - ₹ 2,25,000) + 10% = ₹1,23,750 **(Application of Fund)**

(d) Tax Provision Made during the year = Closing Balance + Tax paid - Opening Balalnce = 85,500+ 61,875 - 78,750 = ₹ 68,625 (taken to Adjusted P&L A/c).

(e) Gross Book Value of Asset Sold = Net Book Vlaue + Accum. Depreciation = 11,250 + 33,750 = 45,000.

(f) Fixed Assets purchased during the year = Closing Balance + Gross Book Value of asset sold -Opening = ₹ 13,50,000 + ₹ 45,000 - ₹ 11,25,000 = ₹2,70,000.(Application of Fund)

(g) Depreciation Provided for the year = Closing Balance + Gross Book value of Asset Sold - Opening balance = ₹ 2,81,250 + ₹ 33,750 - ₹2,25,000 = ₹ 90,000 (taken to Adjusted P/L A/c).

(h) Misc. Exp. W/ off during the year = ₹16,875 - 11,250 = ₹ 5,625. (Taken to Adjusted P & L A/c)

3. Adjusted P & L A/c (to compute funds from Operations)

Particulars	₹	Particulars	₹
To Misc. Expenditure written off	5,625	By balance c/d (Opening Bal. in P&L A/c)	1,12,500
To Provision for Depreciation	90,000	By Funds from Operations (bal.fig.)	3,84,750
To Loss on sale of Asset (11,250- 9,000)	2,250		
To Premium, on Deb. redemption	11,250		
To Provision of taxation	68,625		
To Proposed Dividend for 2005	38,250		
To General Reserve - Transfer	56,250		
To balance c/d (closing Bal. in P&L A/c)	2,25,000		
Total	**4,97,250**	**Total**	**4,97,250**

4. Statement of Sources and Application of funds (Funds Flow Statement)

Sources of Funds	₹	Application of Funds	₹
Funds from Operations(WN 3)	3,84,750	Purchase of Fixed Assets (WN 2f)	2,70,000
Sale of Fixed Assets (given)	9,000	Purchase of Investment (given)	90,000
Sale of Invetsments (WN 2b)	1,01,250	Redemption of Debentures (WN 2c)	1,23,750
Issue of Share Capital (WN 2a)	1,12,500	Payment of Taxes (given)	61,875
		Payment of Dividend (for 2013)	33,750
		Increse in net Working Cap. (WN1)	28,125
Total	**6,07,500**	**Total**	**6,07,500**

Ans. 3. 1. Statement of Changes in Working Capital

Particulars		31.3.2013	31.3.2014	Increase	Decrease
A. Current Assets:	Stock	46,150	58,000	12,650	
	Prepaid Expenses	2,300	1,900		400
	Debtors	77,150	76,350		800
	cash	95,900	77,400		18,500
Total Current Assets		**2,21,500**	**2,14,450**	**12,650**	**19,700**
B. Current Liabilities:	creditors	27,100	28,800	1,700	
	Accrured Expense	4,600	4,350		250
	Bank Overdraft	6,250	7,500	1,250	
Sub- total		**37,950**	**40,650**	**2,950**	**250**
C. Net working Capital		1,83,550	1,73,800	9,700	19,450
Adjustment: Decrease in working Capital			**9,750**	**9,750**	
Total		**1,83,550**	**1,83,550**	**19,450**	**19,450**

2. Fixed assets Account

Particulars	Building	Machinery	Particulars	Building	Machinery
To balance b/d	1,78,400	1,07,050	By Depreciation	6,600	11,400
To Bank a/c (bal fig.)	4,30,000	24,250	By Machinery disposal a/c		9,1500
- assets acquired during the year			By balance c/d	6,01,800	1,10,850
	6,08,400	**1,31,400**		**6,08,400**	**1,31,400**

3. Proceeds from issue of shares = Difference between Closing & Opening Balance in share capital & share Premium a/c = (1,67,50 - 1,50,000) + (3,35,000- 2,37,500) = ₹ 17,500 + 97,500 = 1,15,000
4. Proceeds from issue of Debentures = 2,40,000 - 75,000 for investment in A Ltd = 1,65,000
5. Trade Investment Sold = Opening Bal. Less closing Bal . Gain on sale = 1,05,000- 40,000 + 6,400= ₹ 71,400
6. Amount received by Sale of Machinery = Book Value of M/c + Profit on sale = 9,150+1,850 = 11,000
7. Long Term Repaid = Opening Balance - Closing Balance = 50,000 - 40,000 = 10,000
8. Funds from Opertions = Operating + Depriciation = 91,050 + 6,600 + 11,400 = 1,09,050

9.Funds Flow Statement of Sorces and Application Of Funds)

Sources of Funds		₹	Application of Funds	₹
Funds from opertions	(WN 8)	1,09,050	Purchase of Machinery (WN 2)	24,350
Sale of Machinery	(WN 6)	11,000	Purchase / Construction of Building	4,30,000
Sale of Trade Investment	(WN5)	71,400	Income Tax paid (F.Y. 2012 - 13)	16,850
Debentures Issue	(WN4)	1,65,000	Long term Loan repaid	10,000
Prodeeds from shares Issue	(WN 3)	1,15,000		
Decrease in Net Working Capital	(WN 1)	9,750		
		4,81,200		**4,81,200**

Ans.4. **FUND FLOW STATEMENT**

For the year ending 31.3.2014

Sources	Amount	Application	Amount
Funds from Operations	₹ 71,560	Purchase of Fixed Assets	14,960
Sale of Machinery	250	Purchase of Investment	15,000
Issue of Equity Share Capital	20,000	Redemption of Preference Shares	22,000
Funds from Long Term Loans	40,000	Dividend paid on Equity Shares	12,000
		Interim Dividend	4,000
		Final Dividend on Pref. Shares	8,000
		Increase in Working Capital	55,850
	1,31,810		1,31,810

SCHEDULE OF CHANGE IN WORKING CAPITAL

	2009 (₹)	2010 (₹)	Increase in WC	Decrease in WC
Current Assets:				
Stock	98,000	1,04,000	6,000	-
Trade Debtors(88,000- 1,700)	86,300	85,000	-	1,300
Bank	11,750	32,000	20,250	-
Current Liabilities				
Bank Overdraft		22,000	-	22,000
Trade Creditors		84,450	75,550	8,900
Total			57,150	1,300
Increase in Working Capital			55,850	

ADJUSTED PROFIT AND LOSS ACCOUNT

Particulars	Amount	Particulars	Amount
To Depreciation	₹ 13,260	By Balance b/d	₹ 1,00,350
To Bonus Shares	25,000	By Fixed Asset A/c	3,000
To Loss on sale of Fixed Assets	950	By Reserve for Replacement	5,000
To Premium on Redemption of		By Funds From Operation	71,560
Preference Shares	2,000	(Balancing Figure)	
To Interim Divedend	4,000		
To Proposed Dividend on Equity Shares	24,000		
To Final Dividend on pref. Shares	8,000		
To Balance c/d	1,02,700		
	1,79,910		**1,79,910**

Working Notes:

Fixed Assets Account

Particulars	Amount	Particulars	Amount
To Balance b/d	₹ 2,40,070	By Depreciation A/c	₹ 4,800
To Adjusted P& L A/c	3,000	By Bank (sale)	250
To Sundry Debtors A/c	1,700	By Adjusted P & L A/c	950
To Bank (Purchase)	14,960	By Balance c/d	2,53,730
	2,59,730		**2,59,730**

ACCUMULATED DEPRECIATION ACCOUNT

Particulars	Amount	Particulars	Amount
To Fixed Assets Account	₹ 4,800	By Balance b/d	₹ 90,020
To Balance c/d	98,480	By Adjusted P& L A/c	13,260
	1,03,280		**1,03,280**

CHAPTER NO . 10 CASH FLOW STATEMENT

Ans. 1. **Sagar Ltd.**

Cash Flow statement for the year end 31st December, 2014

	₹	₹
Cash flows from operating activities		
Net profit before taxation and extra - ordinary items	1,17,500	
Adjustments for:		
Depreciation on Land and Buildings	8,000	
Depreciation on Plant and Machinery	10,000	
Loss on Sale of Plant and Machinery	1,000	
Goodwill w/ off	10,000	
Operating profit before working Capital Changes	1,46,500	
Increase in stock	-11,000	
Increase in Debtors	-8,000	
Increase in B.R.	-4,000	
Decrease in Prepaid Expenses	2,000	
Decrease in creaditors	-11,000	
Decrease in B.P.	-24,000	
Net Cash from Operating Activities		90,500
Cash Flows from Investing Activities:		
Sale of Plant and Machinery	7,000	
Purchase of Land and Building	- 18,000	
Purchase of Plant and Machinery	- 78,000	- 89,000
Cash Flows from Financing Activities		
Redemption of Debentures	-1,00,000	
Issue of Equity Capital	1,00,000	
Payment of interim Dividend	- 7,500	-7,500
Net decrease in cash and cash equivalents		- 6,000
Cash and Cash equivalents at the begaining of the year		10,000
Cash And Cash equivalents at the end of the year		4,000

Working Note :

Calculation of Net profit before tax	
P & L A/c at the beginning	(6,000)
Add : Profit for the period [PAT]	92,500
Loss : Transfer to Reserves	(30,000)
Add : Transfer from Reserves	----
Les : Proposed dividend	(20,000) + (7,500)
P/L A/c at the ende	29,000
Net profit before tax	1,17,500
Less : Provision for tax	25,000
Net profit after tax	92,500

Ans. 2. **1. Investments A/c**

Particulars	₹	Particulars	₹
To balance c/d (given)	4,80,000	By Bank (bal. fig)	
		Sale value of Investment	1,44,000
To capital Reserve			
(Profit on sale on Invts)	48,000	By balance c/d (given)	3,84,000
Total	**5,28,000**	**Total**	**5,28,000**

2. Fixed Assets A/c

Particulars	₹	Particulars	₹
To balance b/d (given)	38,40,000	By Assets Disposal A/c- transfer	2,40,000
To Bank A/c (bal. Figure -		By Fixed Assets written off A/c -	
assets purchased)	10,20,000	transfer	60,000
		By balance c/d (given)	45,60,000
Total	**48,60,000**	**Total**	**48,60,000**

3. Accumulated Depreciation A/c

Particulars	₹	Particulars	₹
To Assets Disposal A/c	84,000	By balance b/d (given)	11,04,000
(on assets sold)			
To Fixed Assets w/ off	48,000	By P&L A/c - (Depreciation	
(on assets w/off)		for the year)	4,20,000
To balance c/d (given)	13,92,000		
Total	**15,24,000**	**Total**	**15,24,000**

4. Assets Disposal A/c

Particulars	₹	Particulars	₹
To fixed Assets A/c - Cost	2,40,000	By Bank a/c (Sale of Assets)	1,20,000
of Assets			
		By Accumulated Depreciation A/c	84,000
		By P& L A/c - Loss on sale of Fixed	
		Assets	36,000
Total	**1,20,000**	**Total**	**1,20,000**

5. Fixed Assets Written off A/c

Particulars	₹	Particulars	₹
To Fixed Assets A/c -	60,000	By Accumulated Depreciation A/c	48,000
Cost Of Assets w / off		By p&L A/c - Loss on W/ Off of	12,000
		Fixed Assets	
Total	**60,000**	**Total**	**60,000**

6. Computation of Net Profit before Taxation

Particulars	₹
Profit made during the year = Increase in P& L Account Balalnce	
= ₹ 3,60,000 - 2,88,000	72,000
Add back: Provision for Taxation for the year	4,08,000
Provision dividends	1,74,000
Transfer to Reserve during the year = ₹ 9,60,000 - ₹ 8,16,000	1,44,000
Less : Revaluation of opening stock will increase stock and reduce profits by ₹ 2,59,200 x $\frac{10}{90}$	(28,800)
Net profit before Taxation, taken to cash Flow statement	**7,69,200**

Note: Corrected Value Opening will be $\frac{₹\ 2,59,200}{90\%}$ = ₹ 2,88,000

7. Computation of Increase / Decrease in other current Assets

Particulars	31st March of year1	31st March of Year 2
Other current Assets (as per balance sheet)	11,34,000	12,72,000
Less: Stock included in the above	2,59,200	3,60,000
Hence, other Current Assets (excluding stock)	8,74,800	9,12,000

Note: Other Current Assets are taken as per Balancesheet, Which includes the uncorrected amount of stock as on 31st March of Year 1 . Hence, the uncorrected stock amount is reduced threrfrom, to determine the Other Current Assets.

9. Cash Flow statement for the year ended 31st March of year 2

Particulars	₹	₹
A. CASH FLOW FROM OPERATING ACTIVITIES		
Profit before Taxation (after adjustments for Stock) **(WN 6)**	7,69,200	
Adjustment for: Preliminary Expenses written off (₹ 96,000 - ₹ 48,000)	48,000	
Depreciation **(WN 3)**	4,80,000	
Loss on Sale of Fixed Assets **(WN 4)**	36,000	
Decrease in value of Fixed Assets written off **(WN 5)**	12,000	
Premium on Redemption of Debentures (₹ 9,60,000 - ₹ 6,72,000)x 5%	14,400	
Operating profit before working Capital Changes	12,99,600	
Adjustment for : Increase in Current Liabilities (₹ 6,24,000 - ₹ 5,76,000)	48,000	
Increases in stock (₹ 3,60,000 - ₹2,88,000) (See Note below WN 6)	(72,000)	
Increase in other Current Assets (₹ 9,12,000 - ₹ 8,74,800) (WN 7)	(37,200)	
Cash generated from operations	12,38,000	
Less: Income Taxes Paid	(4,32,000)	
Net Cash flow from/ (used in) Operating Activities		**8,06,000**
B. CASH FLOW FROM INVESTING ACTIVITIES:		
Purchase of Fixed Assets **(WN 2)**	(10,20,000)	
Proceeds from sale of fixed Assets **(WN 4)**	1,20,000	
Proceeds from sale of Investments **(WN 1)**	1,44,000	
Net cash flow from (used in) Investing Activities		**(7,56,000)**
C. CASH FLOW FROM FINANCING ACTIVITIES:		
Proceeds from issuance of share capital (₹ 19,20,000 - ₹ 14,40,000)	4,80,000	
Redemption of Debentures (₹ 9,60,000 - ₹ 6,72,000) at 105%	(3,02,400)	
Dividend paid (₹ 1,44,000 - ₹ 18,000)	(1,04,000)	
Net cash flow / (used in) financing activities		**51,600**
D. Net Increase / (decrease) in cash Equivalents (A+B+C)		1,02,000
E. Cash and Cash equivalents at the begainjing of the year (given)		2,10,000
F. Cash And Cash Equivalents at the end of the year (given)		3,12,000

Ans. 3. Cash Flow statement for the year ended 31st March 2014. [Indirect Method]

Particulars	₹ 000s	₹ 000s
A. Cash Flow from Operating Activities		
Net Profit after Taxation	1,560	
Add back: Provision for Taxation	1,040	
Depreciation	390	
Less: Divided Income (taken in investing Activities	(260)	
Operating profit before working capital changes	2,730	
Adjustment for: Increase in stock (676 - 975)	(299)	
Increase in Debtors (728- 1,131)	(403)	
Increase in Prepaid selling Expenses(26-52)	(26)	
Increase in Creaditors (1,222 - 936)	286	
Increase in outsting Rent (65- 52)	13	
Cash generated from operations	2,301	
Less: Income Tax Paid (OB + Provn - CB) = (520+1040 -195)	(1,365)	
Net Cash Flow from / (used in) Operating Activities		**936**
B. CASH FLOW FROM INVESTING ACTIVITIES:		
Purchase of plant and M/c (CB + Deprn- OB) = 5,525 + 390 - 3,978)	(1, 937)	
Dividend Income Received	250	
Net Cash Flow / (used in) Investing Activities		**(1,677)**
C. CASH FLOW FROM FINANCING ACTIVITIES		
Proceeds from issue of Equity Shares (5,200 - 3,900)	1,300	
Proceeds from issue of 12% Debentures (1,300 - Nil)	1,300	
Dividend paid (as per P & L A/c)	(650)	
Net Cash Flow from / (used in) Financing Activities		**1,950**
D. Net Incease / (Decrease) in cash Acsh equivalents (A+ B+C)		1,209
E. Cash and cash Equivalents at the begaining of the year (494 + 26)		520
F. Cash and Cash Equivalents at the end of the year (1,677 + 52)		**1,729**

Ans. 4. 1. Plant and Machinery Account

Particulars	₹	Particulars	₹
To Balance b/d	6,00,000	By Bank A/c (Sale of Assets)	36,000
To Bank A/c (bal. figure - assets Purchased)	**2,25,000**	By P & L (Loss on sale of assets)	9,000
		By Depreciation (20% on Opening bal.)	1,20,000
		By Balance c/d (given)	6,60,000
Total	**8,25,000**	**Total**	**8,25,000**

2. Investment Account

Particulars	₹	Particulars	₹
To Balance b/d	2,40,000	By Bank A/c (Bal. fig invts sold)	35,000
To Profit on sale of invts (given)	15,000	By balance c/d	2,20,000
Total	**2,55,000**	**Total**	**2,55,000**

3. Cash Flow statement for the year ended 31st March 20x2

Particulars			₹	₹
A. Cash Flow Operating activities				
	Profit made during the year = Increase in P&L bal.= ₹ 3,00,000 - ₹ 2,10,000		90,000	
	Add: Provision for Taxation for the year		96,000	
	Proposed Dividends (for year 20x2)		1,44,000	
	Transfer to Reserve during the year (₹ 1,45,000 - ₹ 1,20,000)		25,000	
	Net Profit before Taxation		3,55,000	
Add back:	Goodwill written off	(₹1,00,000 - ₹ 80,000)	20,000	
	Depriciation on Plant and Machinery		1,20,000	
	Depreciation on Building	(₹ 7,00,000 - ₹ 6,50,000)	50,000	
	Loss on sale of Machinery		9,000	
Less:	Profit on sale of investments		(15,000)	
	Operating Profit before working Capital Changes		5,39,000	
Add / Less:	Adjustment for changes in current Assets / Liabilities			
	Decrease in stock	(₹ 4,00,000 - ₹ 3,85,000)	15,000	
	Decrease in prepaid Expenses	(₹ 15,000 - ₹11,000)	4,000	
	Increase in creaditors	(₹ 2,15,000 - ₹1,85,000)	30,000	
	Increase in debtors	(₹ 4,15,000 - ₹ 2,88,000)	(1,27,000)	
	Cash Generated from Operations		4,61,000	
Less:	Income Tax paid	(₹ 80,000 + ₹ 96,000 - ₹ 1,05,000)	(71,000)	
	Net Cash Flow from / (used in) Operating Activities			**3,90,000**
B. Cash Flow from Investing activities:				
	Purchase of Plant and Machinery **(WN 2)**		(2,25,000)	
	Proceeds from Sale of Machinery		36,000	
	Proceeds from Sale of Investment **(WN 3)**		35,000	
	Net Cash from / (used in) Investing Activities			**(1,54,000)**

Particulars	₹	₹
C. Cash Flow from Financing Activites:		
Issue of Preference shares at Premium (₹ 1,00,000 + ₹ 25,000)	1,25,000	
Redemption of Debetures at premium (₹ 2,00,000 + ₹ 20,000)	(2,20,000)	
Dividend paid (for year 20x1)	(1,36,000)	
Net Cash flow from / (used in) Financing Activities		**2,31,000)**
D. Net Increase / (Decrease) in cash Equivalents (A + B+ C)		5,000
E. Cash And Cash Equivalents at the begining of the year		88,000
F. Cash and Casg Equivalent at the end of the year		**93,000**

4. Statement of Changes in Working Capital

Particulars		31.3.20x1	31.03.20x2	Increase	Decrease
A. 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 & Bank	88,000	93,000	5,000	
Sub - Total Current Assets		**7,91,000**	**9,04,000**	**1,32,000**	**19,000**
B. Current Liabilities:	Creditors	1,85,000	2,15,000	30,000	
	Provision for Taxation	80,000	1,05,000	25,000	
	Proposed Dividend	1,36,000	1,44,000	8,000	
Sub-Total Current Liabilities		**4,01,000**	**4,64,000**	**63,000**	**Nil**
C. Net Working Capital		3,90,000	4,40,000	69,000	**19,000**
Adjustment:	**Increase** in Working Capital	50,000	-		**50,000**
Total		**4,40,000**	**4,40,000**	**69,000**	**69,000**

Ans. 5. Projected Cash Flow statement of X Ltd as on 31.03.2008

Particulars		₹	₹
A. CASH FLOW FROM OPERATING ACTIVITIES:			
Profit for the year (as given)		1,04,500	
Add: Depreciation for the year		1,14,000	
Less: Profit on sale of Fixed Assets (₹ 95,000 - ₹ 66,500 - ₹ 38,000)		(9,500)	
Cash Flow from Operations before working capital changes		2,09,000	
Add/ Less: Adjustement for working Capital items excluding Cash			
(a)	Increase in stock and Debtors (₹ 4,75,000 - ₹ 5,60,500)	(85,000)	
(b)	Increase in Creditors (₹1,14,000 - ₹ 1,48,200)	34,200	
(c)	Increase in Bills Payable (₹ 76,000 - ₹ 98,800)	22,800	
Net Cash flow from / (used in) Operating Activities			**1,80,500**

Particulars	₹	₹
B. CASH FLOW FROM INVESTING ACTIVITIES		
Purchase of Fixed assets	(1,90,000)	
Sale of Machinery Item	38,000	
Net Cash Flow from / (used in) Investing Activities		(1,52,000)
C. CASH FLOW FROM FINANCING ACTIVITIES:		
Dividend (net of tax) 10% on ₹ 5,70,000	(57,000)	
Dividend Distribution Tax ₹ 57,000 x 25/75)	(19,000)	
Net cash Flow from /(used in) Financing Activities		**(76,000)**
D. Net increase / (Decrease) in Cash & Bank Balances during the year (A +B+C)		(47,500)
E. Cash & Bank Balances at the begainig of the year (Given)		66,500
F. Estimated Closing Balance of Cash & Bank (D+E)		**19,000**

Ans. 6. **1. workings/ Basic Calculations**

(a)	Cost of Fixed Assets = Opening Balance + Purchases = ₹ 1,62,50,000+ ₹ 30,00,000 =	₹1,92,50,000
(b)	$\frac{\text{Fixed Assets}}{\text{Sales}} = \frac{₹\ 1,92,50,000}{\text{sales}}$ = 1.4 times. On solving , we have, sale = $\frac{₹\ 1,92,50,000}{1.4}$	₹ 1,37,50,000
(c)	Current year depreciation = 5% of ₹ 1,37,50,000	₹ 6,87,500
(d)	Net Block of fixed Assets = Gross Block **Less** Accumulated Depreciation = ₹ 1,92,50,000 - (₹ 52,00,000 +₹ 6,87,500)	**₹1,33,62,500**
(e)	Cost of Goods Sold (COGS) = 90% of Sales = 90% of ₹1,37,50,000	**₹1,23,75,000**
(f)	Stock Turnover = $\frac{\text{COGS}}{\text{Average stock}} = \frac{₹\ 1,23,75,000}{\text{Average stock}}$ = 6. So, Avg Stock = $\frac{1,23,75,000}{6}$ =	**₹ 20,62,500**
(g)	Average Stock = $\frac{\text{Opening stock + closing stock}}{2} = \frac{19,50,000+ \text{Closing stock}}{2}$ = ₹20,62,500 On Solving this equation, we have closing stock = ₹ 41,25,000 - ₹ 19,50,000	**₹ 21,75,000**
(h)	Dividend paid = preference (8% on ₹ 32,50,000) + Equity (7% on ₹60,00,000)	**₹ 6,80,000**
(i)	Debenture Interest = (11% on ₹ 5,50,000) + (10% on ₹ 19,50,000)	**₹ 2,55,500**
(j)	Materials Cost = 40% of sale = 40% of ₹ 1,37,50,000 = ₹ 55,00,000 Creditors = 25% of Materials = 25% of ₹ 55,00,000	**₹ 13,75,000**
(k)	Debtors = 10 % of Sales = 10% of ₹ 1,37,50,000	**₹ 13,75,000**

2. Projected Profit & Loss Statemnet of X Limited for the ended 31.3.2011

	Particulars	Computation	₹
	Sale	**(WN 1b)**	**1,37,50,000**
Less:	Material Cost	40 % of ₹ 1,37,50,000	55,00,000
	Labour & other production cost	45% of ₹ 1,37,50,000	61,87,500
	Depreciation	5% of ₹ 1,37,50,000	6,87,500
	EBIT	10% of 1,37,50,000	13,75,000
Less:	Interest on Debentures	**(WN 1)**	2,55,500
	EBT		11,19,500
Less:	Taxation	30% of EBT	3,35,850
	EAT		7,83,650
Less:	Preference Dividend	8% x ₹ 32,50,000	2,60,000
	Residual Earnings available for Equity Shareholder		5,23,650
Less:	Equity Dividend	7 % X ₹ 60,00,000	4,20,000
	Balance carried to Balance Sheet		**1,03,650**

3.Projected Balance Sheet of X Limited as on 31st March 2011

Liabilities		₹	Assets		₹
Share Capital:	Equity share capital	90,00,000	**Fixed Assets** - Gross	1,92,50,000	
	8 % preference capital	32,50,000	**Less:** Depereciation	58,87,500	1,33,62,500
Reserves & surplus (incl. P& A/c)		15,03,650	**Current Asset**		
Secured Loans	- 10% Debentures	19,50,000	Stock **(WN 1g)**		21,75,000
	- 11% Debentures	5,50,000	Debtors **(WN 1K)**		13,75,000
Current Liabilities:	Creditors (WN 1)	13,75,000	Cash & Bank **(Bal. fig)**		10,52,000
	Tax Provision	3,35,850			
	Total	**1,79,64,500**			**1,79,64,500**

4. Projected Cash Flow Statement for the period eneded 31 st March 2011 (Indirect Method)

	Particulars		₹	₹
A. Cash Flows from Operating activities:				
	Net Profit before Tax and extra ordinary items		11,19,500	
Adjustment for :	Depreciation		6,87,500	
	Debenture Interest		2,55,500	
	Operating Profit before working Capital changes		20,62,500	
Adjustyment for:	Increase in Stock	(₹ 21,75,000 - 19,50,000)	(2,25,000)	
	Decrease in Creditors	(₹ 32,50,000 -13,75,000)	(18,75,000)	
	Decrease in Debtors	(₹ 26,00,000 - ₹ 13,75,000)	12,25,000	
	Net cash Flow From / (used in) Operating Activities			**11,87,500**
B. Cash Flow From Investing Activities : Purchase of fixed assets				**(30,00,000)**
C. Cash Flow from financing activities:				
	Dividend on prefrence & Equity Capital		(6,80,000)	
	Interest paid on Debentures		(2,55,500)	
	Issue of 11% Debentures		5,50,000	
	Issue of Equity shares		30,00,000	
	Net Cash Flow / (used in) Financing Activities			**26,14,500**
D. Net Increase/ (Decrease) in Cash & Bank during the year (A + B+ C)				8,02,000
E. Cash & Bank Balances at the begining of the year (Given)				2,50,000
F. Estimated Closing Balance of Cash & Bank (D+E)				10,52,000

CHAPTER NO . 11 CASH BUDGET

Ans. 1. Cash Budget the period January - March

	January	February	March
Opening Cash	₹ 22,000	₹ 35,000	₹ 48,000
Cash Inflows:			
Cash Sales	20,000	20,000	24,000
Debtors Collected	80,000	80,000	80,000
Sale of machine	-	-	5,000
Total Cash (A)	1,22,000	1,35,000	1,57,000
Cash Outflows:			
Cash Purchases	2,000	2,000	2,000
Payment to creditors	40,000	40,000	40,000
wages	15,000	15,000	15,000
Manufacturing expenses	20,000	20,000	20,000
General selling expenses	10,000	10,000	10,000
Purchase of machine	-	-	50,000
Total Outflows (B)	87,000	87,000	1,37,000
Cash balance (A- B)	35,000	48,000	20,000

Ans. 2. Cash Budget for January - May , 2014

	Jan	Feb.	March	April	May
Opening balance	50,000	94,100	1,05,500	48,100	65,100
Cash Flows:					
Sales cash	32,000	40,000	32,000	40,000	36,000
Credit	1,28,000	1,12,000	1,28,000	1,60,000	1,28,000
Total Cash (A)	2,10,000	2,46,100	2,26,500	2,48,100	2,29,100
Outflows:					
Creditors	96,000	84,000	96,000	1,20,000	96,000
Variable expenses	7,500	9,000	9,0000	9,000	9,500
5% Commision	6,400	5,600	6,400	8,000	6,400
Rent	6,000	6,000	6,000	6,000	6,000
Fixed assets	-	36,000	1,00,000	-	-
Taxes	-	-	-	40,000	-
Total cash outflows(B)	1,15,900	1,40,600	2,17,400	1,83,000	1,17,900
Balance (A- B)	94,100	1,05,000	48,100	65,100	1,11,200

The ouflows on account of variable expenses have been calculated as follows: The variable expenses are payable with a time lag of half a month of January 2014, Payment would be made in respect of half month sales of January 2014 and half month of sales of December 2013. So,- payment would be 5 % of [1/2(1,40,000) + 1/2 (1,60,000)]. Similarly, payment for other months can also be calculated.

Ans. 3. Calculation of Units to be Produced

	January	February	March	Total
Sales	15,000	20,000	25,000	60,000
+ Closing Inventory				
(next 2 months requirements)	45,000	52,000	57,000	57,000
	60,000	72,000	82,000	1,17,000
- Opening stock	30,000	45,000	52,000	30,000
Production (Balancing Figure)	30,000	27,000	30,000	87,000

CASH BUDGET

(`in lacs)

		January	February	March	Total
	Cash Balance (opening)	0.50	0.50	0.50	0.50
A.	**Cash Inflows from**				
	Debtors:				
	Current Month @ 50%	3.75	5.00	6.25	15.00
	Previous month	4.00	3.75	5.00	12.75
	Total	8.25	9.25	11.75	28.25
B.	**Cash Outflows:**				
	Varible Manufacturing				
	Costs@ 25each	7.50	6.75	7.50	21.75
	Fixed Manufacturing cost	1.50	1.50	1.50	4.50
	Fixed selling Expenses				
	Variable selling Expenses				
	Current month (80%)	0.60	0.80	1.00	2.40
	Next month (20%)	0.25	0.15	0.20	0.60
Total		10.85	10.20	11.20	32.25
Balance		-2.60	-0.95	+0.55	-4.00
Desired minimum cash					
Balance		+0.50	+0.50	+0.50	+0.50
Loan required		3.10	1.45	-	4.50
Repayment		-	-	0.05	-
Closing Balance		0.50	0.50	0.50	0.50