

- (m) To monitor and regulate so as to ensure the compliance of Accounting Standards and Standards on Auditing developed or recommended by Accounting Standards Board and Standards on Auditing Board".
- (n) To safeguard rights and interests of the members and to protect and promote their reputation.
- (o) To render advice and suggestions to Government of Nepal for improvement in prevailing laws related with industry, commerce, finance, revenue and accounting profession.
- (p) To acquire membership of the International Federation of Accountants and Regional and Sub-regional Federations, and establish contact with other foreign professional institutes.
- (q) To recommend appropriate educational standards for account education, in consultation with university or any other educational institutions.
- (r) To organize, as and when necessary, training, symposia and seminars to enhance professional efficiency of Registered Auditors.
- (s) To conduct short-term or long-term training, workshops or symposia for the benefit of manpower involved accounting profession.
- (t) To publish materials related with accounting profession.
- (u) To establish a library containing materials related to profession.
- (v) To determine procedures to be followed by Committees constituted by the Council.
- (w) To approve budget of the Institute and arrange for the fund.
- (x) To recruit staff, as required, for the Institute and fix their remuneration and other perks.
- (x1) To install the mechanism of providing Continued Professional Education (CPE) to members.
- (x2) To develop education system to produce Accounting Technicians and undertake other necessary actions in this regard.
- (y) To carry out such other functions as prescribed by this Act or Regulations and Byelaws framed under this Act.
- (z) To carry out any other functions that deem to be necessary to attain the objectives laid down by this Act.

## FINANCIAL MANAGEMENT

1. SPG Ltd. has the following balances as on 1<sup>st</sup> of Shrawan 2071:

NRs.

Particulars	Amount
Property, Plant & Equipment	
Gross Block	1,140,000
Less: Accumulated Depreciation	399,000
Net Block	741,000
Inventory	225,000
Receivables	250,000
Cash & Bank Balance	66,500
Payables	190,000
Share Capital	570,000

- a. The company made the following estimates for the financial year 2071-72:
- b. The company will pay a tax-free dividend of 10% the rate of tax being 5%.
- c. The company will acquire PPE costing NRs. 190,000 after selling one machine for NRs. 38,000 costing NRs. 95,000 and on which depreciation provided amounted to NRs. 66,500.
- d. At the end of the year, the company will have the following balances

NRs.

Particulars	Amount
Inventory	210,500
Receivables	350,000
Payables	247,000
Profit after depreciation- NRs.	104,500
114,000	

Prepare the projected cash flow statement and ascertain the bank balance of SPG Ltd. as on 32 Ashad 2072

2. The Board of OAP Co has decided to limit investment funds to NRs.10 million for the next year and is preparing its capital budget. The company is considering five projects, as follows:

NRs.

Projects	Initial investment	Net present value
Project A	2,500,000	1,000,000
Project B	2,200,000	1,550,000
Project C	2,600,000	1,350,000
Project D	1,900,000	1,500,000
Project E	5,000,000	To be calculated

All five projects have a project life of four years. Projects A, B, C and D are divisible, and Projects B and D are mutually exclusive. All net present values are in nominal, after-tax terms.

#### Project E

This is a strategically important project, which the Board of OAP Co has decided must be undertaken for the company to remain competitive, regardless of its financial acceptability. Information relating to the future cash flows of this project is as follows:

Year	1	2	3	4
Sales volume (units)	12,000	13,000	10,000	10,000
Selling price (NRs./unit)	450	475	500	570
Variable cost (NRs./unit)	260	280	295	320
Fixed costs (NRs.'000)	750	750	750	750

These forecasts are before taking account of selling price inflation of 5% per year, variable cost inflation of 6% per year and fixed cost inflation of 3.5% per year. The fixed costs are incremental fixed costs, which are associated with Project E. At the end of four years, machinery from the project will be sold for scrap with a value of NRs. 400,000. Tax allowable depreciation on the initial investment cost of Project E is available on a 25%

reducing balance basis and OAP Co pays corporate tax of 28% per year, one year in arrears. A balancing charge or allowance is available at the end of the fourth year of operation. OAP Co has a nominal after-tax cost of capital of 13% per year.

**Required:**

- a) Calculate the nominal after-tax net present value of Project E and comment on the financial acceptability of this project.
  - b) Calculate the maximum net present value which can be obtained from investing the fund of NRs. 10 million, assuming here that the nominal after-tax NPV of Project E is zero.
3. The current assets and current liabilities of CSZ Co at the end of March 2014 are as follows:

	NRs.'000	NRs.'000
Inventory	5,700	
Trade receivables	6,575	12,275
Trade payables	2,137	
Overdraft	4,682	6,819
Net current assets		5,456

For the year to end of March 2014 CSZ Co had domestic and foreign sales of NRs. 40 million, all on credit, while cost of sales was NRs.26 million. Trade payables related to both domestic and foreign suppliers.

For the year to end of March 2015, CSZ Co has forecast that credit sales will remain at NRs.40 million while cost of sales will fall to 60% of sales. The company expects current assets to consist of inventory and trade receivables, and current liabilities to consist of trade payables and the company's overdraft.

CSZ Co also plans to achieve the following target working capital ratio values for the year to the end of March 2015:

Inventory days	60 days
Trade receivables days	75 days
Trade payables days	55 days
Current ratio	1.4 times

**Required:**

- a) Calculate the working capital cycle (cash collection cycle) of CSZ Co at the end of March 2014 and discuss whether a working capital cycle should be positive or negative.
  - b) Calculate the target quick ratio (acid test ratio) and the target ratio of sales to net working capital of CSZ Co at the end of March 2015.
4. The equity beta of Fence Co is 0.9 and the company has issued 10 million ordinary shares. The market value of each ordinary share is NRs.75. The company is also financed by 7% bonds with a nominal value of NRs. 1000 per bond, which will be redeemed in seven years' time at nominal value. The bonds have a total nominal value of NRs. 140 million. Interest on the bonds has just been paid and the current market value of each bond is NRs. 1071.4. The risk-free rate of return is 4% per year and the average return on the stock market is 11% per year. The corporate tax rate is 20% per year.

Required:

a) Calculate the current weighted average cost of capital of Fence Co.

5. Spot Co is considering how to finance the acquisition of a machine costing NRs. 750,000 with an operating life of five years. There are two financing options.

Option 1

The machine could be leased for an annual lease payment of NRs. 155,000 per year, payable at the start of each year.

Option 2

The machine could be bought for NRs. 750,000 using a bank loan charging interest at an annual rate of 7% per year. At the end of five years, the machine would have a scrap value of 10% of the purchase price. If the machine is bought, maintenance costs of NRs. 20,000 per year would be incurred. Taxation must be ignored.

**Required:**

Evaluate whether Spot Co should use leasing or borrowing as a source of finance, explaining the evaluation method which you use.

6. XYZ Co has annual sales revenue of NRs. 6 million and all sales are on 30 days' credit, although customers on average take ten days more than this to pay. Contribution represents 60% of sales and the company currently has no bad debts. Accounts receivable are financed by an overdraft at an annual interest rate of 7%.

XYZ Co plans to offer an early settlement discount of 1.5% for payment within 15 days and to extend the maximum credit offered to 60 days. The company expects that these changes will increase annual credit sales by 5%, while also leading to additional incremental costs equal to 0.5% of turnover. The discount is expected to be taken by 30% of customers, with the remaining customers taking an average of 60 days to pay.

**Required:**

Evaluate whether the proposed changes in credit policy will increase the profitability of XYZ Co.

7. The following financial information relates to VBBS Co.

Income statement extracts

NRs.'000

Particulars	2011	2010
Revenue	14,525	10,375
Cost of sales	10,458	6,640
Profit before interest and tax	4,067	3,735
Interest	355	292
Profit before tax	3,712	3,443
Taxation	1,485	1,278
Distributable profit	2,227	2,165

Statement of financial position extracts

NRs.'000

	2011	2010
Non-current assets	15,284	14,602
Current assets		

Inventory	2,149		1,092	
Trade receivables	3,200	5,349	1,734	2,826
<b>Total assets</b>		<b>20,633</b>		<b>17,428</b>
Current liabilities				
Trade payables	2,865		1,637	
Overdraft	1,500	4,365	250	1,887
Equity				
Ordinary shares	8,000		8,000	
Reserves	4,268	12,268	3,541	11,541
Long-term liabilities				
7% Bonds		4,000		4,000
<b>Total liabilities</b>		<b>20,633.00</b>		<b>7,428.00</b>

Average ratios for the last two years for companies with similar business operations to VBBS Co are as follows:

Current ratio	1.7 times
Quick ratio	1.1 times
Inventory days	55 days
Trade receivables days	60 days
Trade payables days	85 days
Sales revenue/net working capital	10 times

Using suitable working capital ratios and analysis of the financial information provided, evaluate whether VBBS Co can be described as overtrading (undercapitalized).

8. PS Ltd. is a company that is listed on a major stock exchange. The company has struggled to maintain profitability in the last two years due to poor economic conditions in its home country and consequently it has decided not to pay a dividend in the current year. However, there are now clear signs of economic recovery and PS Ltd. is optimistic that payment of dividends can be resumed in the future. Forecast financial information relating to the company is as follows:

Year	1	2	3
Earnings (NRs.'000)	3,000	3,600	4,300
Dividends (NRs.'000)	nil	500	1,000

The company is optimistic that earnings and dividends will increase after Year 3 at a constant annual rate of 3% per year.

PS Ltd. currently has a before-tax cost of debt of 5% per year and an equity beta of 1.6. On a market value basis, the company is currently financed 75% by equity and 25% by debt.

During the course of the last two years, the company acted to reduce its gearing and was able to redeem a large amount of debt. Since there are now clear signs of economic recovery, PS Ltd. plans to raise further debt in order to modernize some of its non-current assets and to support the expected growth in earnings. This additional debt would mean that the capital structure of the company would change and it would be financed 60% by

equity and 40% by debt on a market value basis. The before-tax cost of debt of PS Ltd. would increase to 6% per year and the equity beta of PS Ltd. would increase to 2. The risk-free rate of return is 4% per year and the equity risk premium is 5% per year. In order to stimulate economic activity the government has reduced profit tax rate for all large companies to 20% per year. The current average price/earnings ratio of listed companies similar to PS Ltd. is 5 times.

### Required

- a) Estimate the value of PS Ltd. using the price/earnings ratio method and discuss the usefulness of the variables that you have used.
  - b) Calculate the current cost of equity of PS Ltd. and, using this value, calculate the value of the company using the dividend valuation model.
  - c) Calculate the current weighted average after-tax cost of capital of PS Ltd. and the weighted average after-tax cost of capital following the new debt issue, and comment on the difference between the two values.
9. Entity C has monthly sales of NRs. 100,000. A factor has offered to take over the administration of entity C's trade receivables, on a non-recourse basis. It would charge a fee of 4% of the value of invoices processed. If the factor takes over this work, entity C would save monthly administration costs of NRs. 2,000 and would avoid bad debts, which are 0.75% of sales. Entity C has been informed by the factor that the average collection period will be reduced from 2 months to 1 month. The factor will also provide finance by lending 80% of the value of unpaid invoices, charging at an annual rate of 8% on the cash that it lends. At the moment, entity C finances its trade receivables with bank overdraft finance at 9% per year interest.

### Required

Calculate the net effect on annual profits of Entity C if the factor took over the administration of the trade receivables and provided finance on the terms described above.

10. PGSS produces and sells a single product. The company has issued share capital of 8,000 equity shares of NRs. 100 each. For the year ended 16<sup>th</sup> July 2014, the company sold 60,000 units of product at a price of NRs. 30 each. The income statement for the year to 16<sup>th</sup> July 2014 is as follows:

	NRs.' 000
Sales	1,800
Variable costs	720
Fixed costs	360
Net profit before interest and tax	720
Interest payable	190
Net profit before tax	530
Tax@ 35%	186
Net profit after Tax	344

The company has decided to introduce a new automated production process, in order to improve efficiency. The new process will increase annual fixed costs by NRs. 120,000 (including depreciation) but will reduce variable costs by NRs. 7 per unit. There will be no increase in annual sales volume.

The new production process will be financed by the issue of NRs. 2,000,000 debentures @ 12.5%.

### Required

- a) Calculate the change in earnings per share if the company introduces the new production process.
- b) Assume that the company introduces the new production process immediately on 17<sup>th</sup> July 2014. Calculate for the year to 16<sup>th</sup> July 2015:
  - i) The degree of operating gearing
  - ii) The degree of financial gearing
  - iii) The combined gearing effect

11. The following figures are collected from the annual report of ABC Ltd.

Net Profit NRs. 30 lakh  
 Outstanding 12% preference shares NRs. 100 lakhs  
 No. of equity shares 3 lakhs  
 Return on Investment 20%  
 Cost of Capital (Ke) 16%

What would be the approximate dividend pay out ratio so as to keep the share price at NRs. 42 by using walter model?

12. SKL ltd. is forced to choose between two machines X & Y. the two machines are designed differently but have identical capacity and do exactly the same job. Machine X costs NRs. 150,000 and will last for 3 years with annual operating cost of NRs. 40,000. Machine Y is an economy model costing only NRs. 100,000, but will last only for 2 years, and costs NRs. 60,000 p.a. to operate. Opportunity cost of capital is 10%. Advise which machine SKL ltd. should buy?

13. Following is data regarding six securities

	A	B	C	D	E	F
Return %	10	10	15	5	11	10
Risk (SD) %	5	6	13	5	6	7

- i) Which of three securities will be selected?
- ii) Assuming perfect correlation, analyse whether it is preferable to invest 80% in security A & 20% in security C or to invest 100% in E.

14. SS Ltd. provides you with following figures

Profit before interest & Tax	300,000
Less: interest on Debentures @ 12%	60,000
	240,000
Income Tax @ 50%	120,000
<b>EAT</b>	<b>120,000</b>
No. of Equity Shares (NRs. 10 each)	40,000
EPS	3
Ruling price in market	30

NRs.

The company has undistributed reserve of NRs. 600,000. The company needs NRs. 200,000 for expansion. This amount will earn at the same rate as funds already employed. You are informed that a debt equity ratio higher than 35% will push the P/E ratio down to 8. The interest rate on additional amount borrowed will be 14%.

- (a) You are required to ascertain the probable price of the share
  - i) If the additional funds are raised as debt
  - ii) If the amount is raised by issuing shares
- (b) Define optimum capital structure

15.
  - (a) Discuss the attractions of leasing as a source of both short-term and long-term finance.
  - (b) Discuss the relationship between the cash operating cycle and the level of investment in working capital.
  - (c) Discuss the weaknesses of the dividend growth model as a way of valuing a company and its shares.
16. Distinguish between:
  - (a) Money market and Capital Market
  - (b) Factoring and Forfaiting
17. Define the following terms
  - (a) Venture capital financing
  - (b) Global depositary receipt
  - (c) Speculative motive of holding cash
  - (d) Hedging approach (to financing decision)
18. Define the following terms
  - a) Sensitivity Analysis
  - b) Risk & Uncertainty
  - c) Acid test ratio
  - d) Residual theory of dividend policy
19. A shareholder of QSX Co is concerned about the recent performance of the company and has collected the following financial information

NRs.

Year to 31 May	2009	2008	2007
Turnover	6.8m	6.8m	6.6m
Earnings per share	58.9	64.2	61.7
Dividend per share	40	38.5	37
Closing ex dividend share price	648	835	740
Return on equity predicted by CAPM	8%	12%	

One of the items discussed at a recent board meeting of QSX Co was the dividend payment for 2010. The finance director proposed that, in order to conserve cash within the company, no dividend would be paid in 2010, 2011 and 2012. It was expected that improved economic conditions at the end of this three-year period would make it possible to pay a dividend of NRs. 70 per share in 2013. The finance director expects that an annual dividend increase of

3% per year in subsequent years could be maintained. The current cost of equity of QSX Co is 10% per year. Assume that dividends are paid at the end of each year.

### Required

Calculate the dividend yield, capital gain and total shareholder return for 2008 and 2009

20. Explain the following
- Explain the difference between systematic and unsystematic risk in relation to portfolio theory and the capital asset pricing model
  - Discuss whether changing the capital structure of a company can lead to a reduction in its cost of capital and hence to an increase in the value of the company.
  - Identify the objectives of working capital management and discuss the central role of working capital management in financial management.

### SUGGESTED ANSWERS/HINTS

1. Projected cash flow statement of SPG Ltd. as on 32 Ashad 2072:

NRs.

<b>Net Profit After Depreciation</b>		<b>104,500</b>
<b>Adjustment</b>		
Depreciation	114,000	
Gain on Sale of PPE	(9,500)	104,500
		<b>209,000</b>
<b>Adjustment for changes in Working Capital</b>		
(Increase)/Decrease in Inventory	14,500	
(Increase)/Decrease in Receivables	(100,000)	
Increase/(Decrease) in Payables	57,000	(28,500)
<b>Cash Flow From Operating Activities</b>		<b>180,500</b>
<b>Cash Flow From Investing Activities</b>		
Purchase of an item of PPE		(190,000)
Disposal of an item of PPE		38,000
<b>Cash Flow From Investing Activities</b>		<b>(152,000)</b>
<b>Cash Flow From Financing Activities</b>		
Increase/(Decrease) in Share Capital		-
Dividend Paid		(60,000)
<b>Cash Flow From Financing Activities</b>		<b>(60,000)</b>
<b>Net Cash flow During the Year</b>		<b>(31,500)</b>
Opening Balance		66,500
<b>Closing Balance of Cash &amp; Cash Equivalent</b>		<b>35,000</b>

2.

a) Calculation of NPV

NRs.'000

Year	1	2	3	4	5
Sales income	5,670	6,808	5,788	6,928	
Variable cost	(3,307)	(4,090)	(3,514)	(4,040)	
Contribution	2,363	2,718	2,274	2,888	
Fixed cost	(776)	(803)	(832)	(861)	
Cash flow before tax	1,587	1,915	1,442	2,027	
Tax at 28%		(444)	(536)	(404)	(568)
Depreciation tax benefit		350	263	197	479
Cash flow after tax	1,587	1,821	1,169	1,820	(89)
Scrap value				400	
Net cash flow	1,587	1,821	1,169	2,220	(89)
Discount at 13%	0.885	0.783	0.693	0.613	0.543
Present values	1,405	1,426	810	1,361	(48)
Sum of present values	4,954				
Initial investment	5,000				
Net present value	(46)				

Although the NPV of the project is negative and so financially it is not acceptable, the Board of OAP Co has decided that it must be undertaken as it strategically important.

**Workings**

Year	1	2	3	4
Selling price (NRs./unit)	450	475	500	570
Inflated selling price (NRs./unit)	472.50	523.69	578.81	692.84
Sales volume (units/year)	12,000	13,000	10,000	10,000
Sales income (NRs.'000/year)	5,670	6,808	5,788	6,928
Variable cost (NRs./unit)	260	280	295	320

Inflated variable cost (NRs./unit)	275.60	314.61	351.35	403.99
Sales volume (units/year)	12,000	13,000	10,000	10,000
Variable cost (NRs.'000/year)	3,307	4,090	3,514	4,040

NRs.

Year	Tax allowable depreciation	Tax benefit
1	$5,000,000 \times 0.25 = 1,250,000$	$1,250,000 \times 0.28 = 350,000$
2	$3,750,000 \times 0.25 = 937,500$	$937,500 \times 0.28 = 262,500$
3	$2,812,500 \times 0.25 = 703,125$	$703,125 \times 0.28 = 196,875$
4	1,709,375*	$1,709,375 \times 0.28 = 478,625$

$$*5,000,000 - 1,250,000 - 937,500 - 703,125 - 400,000 = 1,709,375$$

b) Calculation of maximum NPV

Project	A	B	C	D	E
Investment (NRs.'000)	2,500	2,200	2,600	1,900	5,000
NPV (NRs.'000)	1,000	1,550	1,350	1,500	nil
PV of future cash flows (NRs.'000)	3,500	3,750	3,950	3,400	5,000
Profitability index	1.4	1.705	1.519	1.789	1
Ranking	4		3	2	1

Project E has been ranked first as it must be undertaken. Project B cannot be undertaken if Project D is undertaken, as the two projects are mutually exclusive.

Calculation of maximum NPV

NRs.'000

	Investment	NPV
Project E	5,000	nil
Project D	1,900	1,500
Project C	2,600	1,350
Project A	500	200
	<b>10,000</b>	<b>3,050</b>

As Project A is divisible and only NRs. 500,000 (20%) of its NRs. 2,500,000 initial cost is available after cumulative investment in Projects E, D and C, the NPV from the project is NRs. 200,000 (20% of NRs. 1,000,000).

3.  
a)

Inventory days	<b>80 days</b> {365 x (5,700/26,000)}
Trade receivables days	<b>60 days</b> {365 x (6,575/40,000)}
Trade payables days	<b>30 days</b> {365 x (2,137/26,000)}
Working capital cycle of CSZ Co	<b>110 days</b> (80 + 60 - 30)

The working cycle of CSZ Co is positive and the company pays its trade suppliers 110 days (on average) before it receives cash from its customers. This represents a financing need as far as CSZ Co is concerned, which could be funded from a short-term or long-term source.

If the working capital cycle had been negative, CSZ Co would have been receiving cash from its customers before it needed to pay its trade suppliers. A company, which does not give credit to its customers, such as a supermarket chain, can have a negative working capital cycle.

b) At the end of March 2015:

Cost of sales = 40,000,000 x 0.6 = NRs. 24,000,000

Inventory using target inventory days = 24,000,000 x 60/365 = NRs. 3,945,206

Trade receivables using target trade receivables days = 40,000,000 x 75/365 = NRs. 8,219,178

Current assets = 3,945,206 + 8,219,178 = NRs. 12,164,384

If the target current ratio is 1.4 times, current liabilities = 12,164,384/1.4 = NRs. 8,688,846

The target quick ratio (acid test ratio) = 8,219,178/8,688,846 = 0.95 times

Net current assets at the end of March 2015 = 12,164,384 - 8,688,846 = NRs. 3,475,538

Target sales/net working capital ratio = 40,000,000/3,475,538 = 11.5 times

4.

a) **Cost of equity**

The current cost of equity can be calculated using the capital asset pricing model.

Equity or market risk premium = 11 - 4 = 7%

Cost of equity = 4 + (0.9 x 7) = 4 + 6.3 = 10.3%

**After-tax cost of debt**

After-tax interest payment = 1000 x 0.07 x (1 - 0.2) = NRs. 56 per bond

Year	Cash flow (NRs.)		5% discount	PV	4% discount	PV (NRs.)
0	market value	(1,071.4)	1	(1,071.4)	1	(1,071.4)

1-7	interest	56	5.786	324.02	6.002	336.11
7	redemption	1000	0.711	711	0.760	760
				(36.38)		24.71

After-tax cost of debt = IRR =  $4 + ((5 - 4) \times 24.71) / (24.71 + 36.38) = 4 + 0.4 = 4.4\%$

Market value of equity = 10,000,000 x 750 = NRs. 750 million

Market value of Fence Co debt = 140 million x 1071.4/1000 = NRs.150 million

Total market value of company = 750 + 150 = NRs. 900 million

WACC =  $\{(10.3 \times 750) + (4.4 \times 150)\} / 900 = 9.3\%$

5.  
a) In order to evaluate whether Spot Co should use leasing or borrowing, the present value of the cost of leasing is compared with the present value of the cost of borrowing.

### Leasing

The lease payments should be discounted using the cost of borrowing of Spot Co. Since taxation must be ignored, the before-tax cost of borrowing must be used. The 7% interest rate of the bank loan can be used here.

The five lease payments will begin at year 0 and the last lease payment will be at the start of year 5, i.e. at the end of year 4. The appropriate annuity factor to use will therefore be 4.387 (1 + 3.387).

Present value of cost of leasing = 155,000 x 4.387 = NRs. 679,985

### Borrowing

The purchase cost and the present value of maintenance payments will be offset by the present value of the future scrap value. The appropriate discount rate is again the before-tax cost of borrowing of 7%.

Year	Cash flow (NRs.)		7% Discount factor	Present value (NRs.)
0	Purchase	(750,000)	1	(750,000)
1-5	Maintenance	(20,000)	4.1	(82,000)
5	Scrap value	75,000	0.713	53,475

Present value of cost of borrowing = 750,000 + 82,000 - 53,475 = NRs. 778,525

The cheaper source of financing is leasing, since the present value of the cost of leasing is NRs. 98,540 less than the present value of the cost of borrowing.

6.

Current average collection period = 30 + 10 = 40 days

Current accounts receivable = 6m x 40/ 365 = NRs. 657,534

Average collection period under new policy = (0.3 x 15) + (0.7 x 60) = 46.5 days

New level of credit sales = NRs. 6.3 million

Accounts receivable after policy change = 6.3 x 46.5/ 365 = NRs. 802,603

Increase in financing cost = (802,603 - 657,534) x 0.07 = NRs. 10,155

	Amount (NRs.)
Increase in financing cost	10,155
Incremental costs	31,500 (6.3m x 0.005)
Cost of discount	28,350 (6.3m x 0.015 x 0.3)
Increase in costs	70,005
Contribution from increased sales	180,000 (6m x 0.05 x 0.6)
Net benefit of policy change	109,995

The proposed policy change will increase the profitability of XYZ Co.

7.

Overtrading arises when a company does not have enough long-term finance to support its level of trading activity. There are a number of signs of overtrading, which are referred to in the following discussion.

#### **Rapid increase in revenue or turnover compared to long-term finance**

Revenue has increased by 40%, from NRs. 10,375,000 to NRs. 14,525,000, while long-term finance has increased by only 4.7% (NRs. 16,268,000/NRs. 15,541,000).

#### **Increase in trade receivables days**

A rapid increase in revenue may be due to offering more generous credit terms to customers, in which case the trade receivables ratio would be expected to increase. Trade receivables days have in fact increased from 61 days to 80 days, an increase of 31%. In 2010 trade receivables days were close to the average value for similar companies of 60 days, but they are now 33% more than this. While revenue has increased by 40%, trade receivables have increased by 85% (NRs. 3,200,000/NRs. 1,734,000). It appears that VBBS Co has offered more generous credit terms to its customers, although another explanation could be that the company's customers are struggling to settle their accounts on time due a downturn in economic activity, for example a recession, leading to an increase in overdue payments and outstanding invoices.

#### **Decrease in profitability**

A rapid increase in revenue may also be due to offering lower prices on products sold, affecting gross profit margin or net profit margin. The net profit margin of VBBS Co has decreased from 36% in 2010 to 28% in 2011. While revenue increased by 40%, profit before interest and tax increased by only 8.9% (NRs. 4,067,000/NRs. 3,735,000). While this decrease in profitability supports the possibility that VBBS Co has decreased selling prices in order to increase sales volume, such a decrease in profitability may also be caused by an increase in cost of sales or other operating costs.

#### **Rapid increase in current assets**

The increase in trade receivables has already been discussed. Inventory increased by 97% (NRs. 2,149,000/NRs. 1,092,000) compared to the revenue increase of 40%, indicating perhaps that further increases in sales volume are being planned by VBBS Co. Inventory days also increased from 60 days in 2010 to 75 days in 2011, well above the average value for similar companies of 55 days. There has therefore been a rapid increase in current assets of 89% (NRs. 5,349,000/NRs. 2,826,000), compared to the increase in long-term finance of only 4.7%.

#### **An increased dependence on short-term finance**

VBBS Co has certainly increased its dependence on short-term finance and this can be shown in several ways. The sales revenue/net working capital ratio has increased from 11 times in 2010 to 15 times in 2011, compared to the average value for similar companies of 10 times. There has been a 500% increase in the company's overdraft (NRs. 1,500,000/NRs. 250,000) and a 75% increase in trade payables (NRs. 2,865,000/NRs. 1,637,000). Furthermore, trade payables days rose from 90 days in 2010 to 100 days in 2011, higher than the average value for similar companies of 85 days. Short-term debt as a proportion of total debt increased from 6% in 2010 (NRs. 250,000/NRs. 4,250,000) to 27% in 2011 (NRs. 1,500,000/NRs. 5,500,000). This analysis supports the view that VBBS Co is more dependent on short-term finance in 2011 than in 2010.

#### **A decrease in liquidity**

A key problem arising from overtrading is a decrease in liquidity and a shortage of cash. The current ratio of VBBS Co has fallen from 1.5 times in 2010 to 1.2 times in 2011, compared to an average value for similar companies of 1.7 times. The quick ratio or acid test ratio, which is a more sensitive measure of liquidity, has fallen from 0.9 times in 2010 to 0.7 times in 2011, compared to an average value for similar companies of 1.1 times. There are therefore clear indications that liquidity has fallen over the period and that VBBS Co has a weaker liquidity position than similar companies on an average basis. However, the current assets of the company do still exceed its current liabilities, so it does not yet have a liquid deficit.

#### **Conclusion**

Overall, it can be concluded that there are several indications that VBBS Co is moving, or has moved, into an overtrading (under capitalization) position.

#### **Workings**

Increase in revenue =  $100 \times (14,525 - 10,375) / 10,375 = 40\%$

Increase in long-term finance =  $100 \times (16,268 - 15,541) / 15,541 = 4.7\%$

	2011	2010
Net profit margin	$100 \times 4,067 / 14,525 = 28\%$	$100 \times 3,735 / 10,375 = 36\%$
Current ratio	$5,349 / 4,365 = 1.2$ times	$2,826 / 1,887 = 1.5$ times
Quick ratio	$3,200 / 4,365 = 0.7$ times	$1,734 / 1,887 = 0.9$ times
Inventory days	$365 \times 2,149 / 10,458 = 75$ days	$365 \times 1,092 / 6,640 = 60$ days
Receivables days	$365 \times 3,200 / 14,525 = 80$ days	$365 \times 1,734 / 10,375 = 61$ days
Payables days	$365 \times 2,865 / 10,458 = 100$ days	$365 \times 1,637 / 6,640 = 90$ days
Net working capital	$5,349 - 4,365 = \text{NRs.}984,000$	$2,826 - 1,887 = \text{NRs.}939,000$
Sales/net working capital	$14,525 / 984 = 15$ times	$10,375 / 939 = 11$ times

8.  
a) Price/earnings ratio valuation

The value of the company using this valuation method is found by multiplying future earnings by a price/earnings ratio. Using the earnings of PS Ltd. in Year 1 and the price/earnings ratio of similar listed companies gives a value of 3,000,000 x 5 = NRs. 15,000,000.

Using the current average price/earnings ratio of similar listed companies as the basis for the valuation rests on two questionable assumptions. First, in terms of similarity, the valuation assumes similar business operations, similar capital structures, similar earnings growth prospects, and so on. In reality, no two companies are identical. Second, in terms of using an average price/earnings ratio, this may derive from companies that are large and small, successful and failing, low-g geared and high-g geared, and domestic or international in terms of markets served. The calculated company value therefore has a large degree of uncertainty attached to it.

b) Value of company using the dividend valuation model

The current cost of equity using the capital asset pricing model =  $4 + (1.6 \times 5) = 12\%$

Since a dividend will not be paid in Year 1, the dividend growth model cannot be applied straight away. However, dividends after Year 3 are expected to grow at a constant annual rate of 3% per year and so the dividend growth model can be applied to these dividends. The present value of these dividends is a Year 3 present value, which will need discounting back to year 0. The market value of the company can then be found by adding this to the present value of the forecast dividends in Years 2 and 3.

PV of year 2 dividend =  $500,000/1.12^2 = \text{NRs. } 398,597$

PV of year 3 dividend =  $1,000,000/1.12^3 = \text{NRs. } 711,780$

Year 3 PV of dividends after year 3 =  $(1,000,000 \times 1.03) / (0.12 - 0.03) = \text{NRs. } 11,444,444$

Year 0 PV of these dividends =  $11,444,444/1.12^3 = \text{NRs. } 8,145,929$

Market value from dividend valuation model =  $398,597 + 711,780 + 8,145,929 = \text{NRs. } 9,256,306$  or approximately NRs. 9.3 million

c) Current weighted average after-tax cost of capital

Current cost of equity using the capital asset pricing model = 12%

After-tax cost of debt =  $5 \times (1 - 0.2) = 5 \times 0.8 = 4\%$

Current after-tax WACC =  $(12 \times 0.75) + (4 \times 0.25) = 10\%$  per year

Weighted average after-tax cost of capital after new debt issue

Revised cost of equity =  $K_e = 4 + (2.0 \times 5) = 14\%$

Revised after-tax cost of debt =  $6 \times (1 - 0.2) = 6 \times 0.8 = 4.8\%$

Revised after-tax WACC =  $(14 \times 0.6) + (4.8 \times 0.4) = 10.32\%$  per year

**Comment**

The after-tax WACC has increased slightly from 10% to 10.32%. This change is a result of the increases in the cost of equity and the after-tax cost of debt, coupled with the change in gearing. Although the cost of equity has increased, the effect of the increase has been reduced because the proportion of equity finance has fallen from 75% to 60% of the long-term capital employed. Although the after-tax cost of debt has increased, the cost of debt is less than the cost of equity and the proportion of cheaper debt finance has increased from 25% to 40% of the long-term capital employed.

9.

Annual sales = NRs. 100,000 x 12 months = NRs. 1,200,000.

Average trade receivables without the factor = NRs. 1,200,000 x 2 months/12 months

= NRs. 200,000  
 Average trade receivables with the factor = NRs. 1,200,000 x 1 months/12 months  
 = NRs. 100,000

Annual Cost	Amount (NRs.)	
<b>Without Factor</b>		
Administration (12 x NRs. 2000)	24,000	
Bad debts (0.75 x NRs. 1,200,000)	9,000	
Interest Cost of Finance (9% x NRs. 200,000)	18,000	<b>51,000</b>
<b>With Factor</b>		
Fees (4% x NRs. 1,200,000)	48,000	
Interest cost of finance		
Factor finance (8% x 80% x NRs. 100,000)	6,400	
Overdraft finance (9% x 20% x NRs. 100,000)	1,800	<b>56,200</b>
Net extra cost of the factor per year		5,200

10.

a) Existing earnings per share =  $\frac{\text{Net profit after tax}}{\text{Number of equity shares}} = \frac{\text{NRs. } 344,000}{8,000} = \text{NRs. } 43$

Earnings per share with new production process:

	NRs.' 000
Sales	1,800
Variable costs (60,000 x NRs. 5)	300
Fixed costs (360+120)	480
Net profit before interest and tax	1,020
Interest payable {190+ (12.5% x NRs. 2 Million)}	440
Net profit before tax	580
Tax@ 35%	203
Net profit after Tax	377
EPS	47.13

There is increase in EPS by NRs. 4.13

b)

i) The degree of operating gearing =  $\frac{\text{Contribution}}{\text{PBIT}} = \frac{1,800-300}{1,020} = 1.47$  times

ii) The degree of operating gearing =  $\frac{\text{PBIT}}{\text{Profit after interest but before tax}}$

$$= \frac{1,020}{1,020-440} = 1.76 \text{ times}$$

iii) The combined gearing effect = 1.47 x 1.76 = 2.59 times

11.

We have,

Net profit	30 laks
Less: Preference Dividend	12 laks
Earning for Equity	18 Laks
No. of equity	3 laks
EPS	Rs 6

Amount of Dividend = 0

As per Walters Model,

$$P_0 = \frac{D + (E - D) \times r / k_e}{k_e}$$

$$42 = \frac{D + (6 - D) \times 0.2 / 0.16}{0.16}$$

$$42 \times 0.16 = D + (6 - D) \times 1.25$$

$$6.72 = 7.50 - 0.25 D$$

$$0.25 D = 0.78$$

$$0.25 D = 0.78$$

Therefore dividend per share (D) =  $\frac{0.78}{0.25} = 3.12$

Dividend payout ratio =  $\frac{DPS}{EPS} \times 100 = \frac{3.12}{6} \times 100 = 52\%$

12.

We have,

	Machine A	Machine B
Life	3 years	2 years
Initial outflows (purchase cost)	150000	100000
Annual Running Cost	40000 p.a	60000 p.a

Pv of outflows for Machine A

$$\begin{aligned} &= 150,000 \times 1 + 40,000 \times 0.909 + 40,000 \times 0.826 + 40,000 \times 0.751 \\ &= 150,000 \times 1 + 40,000 \times 2.486 \\ &= 249,440 \end{aligned}$$

Pv of Outflows for Machine B

$$\begin{aligned} &= 100,000 \times 1 + 60,000 \times 1.735 \\ &= 204,100 \end{aligned}$$

	Machine A	Machine B
Life	3 Years	2 Years
Pv of Outflows	249,440	204,100
Sum of PV	2.486	1.735
EAC (equal annualized year end cost)	NRs 100,338 (249,440/2.486)	NRs 117,637 (204,100/1.735)

Advice: SKL Ltd. shall go for machine A since it has lower equal annualized cost.

13.

Arranging the securities in the increasing order of risk;

Risk (%)	Return (%)	Security	Invest
5	10	A	Yes
5	5	D	No
6	10	B	No
6	11	E	Yes
7	10	F	No
13	15	C	Yes

A, E & C shall be selected

When Investment proportion in A & C is 80% & 20% respectively

$$\begin{aligned}\text{Overall Return} &= \text{Return}_A \times \text{Weight}_A + \text{Return}_C \times \text{Weight}_C \\ &= 10\% \times 0.80 + 15\% \times 0.20 \\ &= 11\%\end{aligned}$$

$$\begin{aligned}\text{Overall Variance} &= (\text{SD}_A \times \text{W}_A)^2 + (\text{SD}_C \times \text{W}_C)^2 + 2 \times (\text{SD}_A \times \text{W}_A) \times (\text{SD}_C \times \text{W}_C) \times r_{AC} \\ (\text{Overall SD})^2 &= (5 \times 0.80) + (13 \times 0.20) + 2 (5 \times 0.80) (13 \times 0.20) (-1) \\ (\text{Overall SD})^2 &= 1.96\end{aligned}$$

Therefore, Overall SD = 1.4

Summary

	Alternative 1 (80% A & 20% C)	Alternative 2 (100% in E)
Standard Deviation (SD)	1.4%	6%
Overall Return	11%	11%

Conclusion

As we can see that though the return for both alternatives are same, alternative 1 has priority over alternative 2 because it has a lower standard deviation (Risk).

14.

Existing Capital Employed

Equity capital	=400,000
Reserves	=600,000
Total Equity	=1,000,000
Debts	=500,000
Capital Employed	=1,500,000

EBIT = 300,000

Now, Rate of Return on Investment (On Closing capital) = (EBIT/Closing Capital Employed)\*100

$$= (300,000/1,500,000)*100 \\ = 20\%$$

As specified in the question, this rate of return i.e. 20% will be available on additional investments

Proposed position

Existing capital Employed = 1,500,000  
Additional Investment = 200,000  
Total Capital after addition = 1,700,000

Expected EBIT = 1,700,000 X 20%  
= 340,000

The additional investment can be raised from either equity or debt issue

**Option 1: If fund is raised through debt issue**

Total Capital = 1,700,000  
Equity = 1,000,000  
Debt = 500,000 + 200,000 = 700,000

Debt- Equity Ratio = Debt/(Debt+Equity)  
= 700,000 / (1,700,000)  
= 41.18%

Since the D/E ratio is more than 35%, applicable P/E ratio will be 8 times

**Option 2: If Fund is raised through equity issue**

New shares may be issued at the current market price by the company or at a slightly lower price. Let us assume that the company issues its shares at Rs. 28 then,  
Number of new shares to be issued = Fund Required/Issue price per share  
= 200,000/28  
= 7,143 (appx.)

Total shares outstanding under this option = 40,000 + 7,143 = 47,143

Calculation of probable price per share

Particulars	Option 1 (Debt Issue)	Option 2 (Equity Issue)
EBIT	340,000	340,000
Less: Interest on Existing bonds	60,000	60,000
Interest on additional debt	28,000	0
Earnings Before Tax	252,000	280,000
Less: Tax @ 50%	126,000	140,000
<b>Earnings After Tax (EAT)</b>	<b>126,000</b>	<b>140,000</b>
<b>Outstanding No. of Shares (N)</b>	<b>40,000</b>	<b>47,143</b>
<b>Earnings per share (EPS) =</b>	<b>3.15</b>	<b>2.97</b>

EAT/N		
P/E Ratio (Times)	8	10
Market price per share (EPS X P/E ratio)	25.20	29.70

**Conclusion:**

Since market price per share is higher in case of equity issue, the company shall raise required funds from equity.

Working Notes

Amount of interest = Debt X Interest Rate

Therefore, Debt amount = Interest amount/interest rate

$$= 60,000/12$$

$$= 500,000$$

Existing Equity Capital = No. of shares X paid up value per share

$$= 40,000 \times 10$$

$$= 400,000$$

15. a) Operating leasing can act as a source of short-term finance, while finance leasing can act as a source of long-term finance.

Operating leasing offers a solution to the obsolescence problem, whereby rapidly aging assets can decrease competitive advantage. Where keeping up-to-date with the latest technology is essential for business operations, operating leasing provides equipment on short-term contracts which can usually be cancelled without penalty to the lessee. Operating leasing can also provide access to skilled maintenance, which might otherwise need to be bought in by the lessee, although there will be a charge for this service.

Both operating leasing and finance leasing provide access to non-current assets in cases where borrowing may be difficult or even not possible for a company. For example, the company may lack assets to offer as security, or it may be seen as too risky to lend to. Since ownership of the leased asset remains with the lessor, it can be retrieved if lease rental payments are not forthcoming.

- b) The cash operating cycle is the average length of time between paying trade payables and receiving cash from trade receivables. It is the sum of the average inventory holding period, the average production period and the average trade receivables credit period, less the average trade payables credit period. Using working capital ratios, the cash operating cycle

is the sum of the inventory turnover period and the accounts receivable days, less the accounts payable days.

The relationship between the cash operating cycle and the level of investment in working capital is that an increase in the length of the cash operating cycle will increase the level of investment in working capital. The length of the cash operating cycle depends on working capital policy in relation to the level of investment in working capital, and on the nature of the business operations of a company.

**Working capital policy**

Companies with the same business operations may have different levels of investment in working capital as a result of adopting different working capital policies. An aggressive policy uses lower levels of inventory and trade receivables than a conservative policy, and so will lead to a shorter cash operating cycle. A conservative policy on the level of investment in working capital, in contrast, with higher levels of inventory and trade receivables, will lead to a longer cash operating cycle. The higher cost of the longer cash operating cycle will lead to a decrease in profitability while also decreasing risk, for example the risk of running out of inventory.

### Nature of business operations

Companies with different business operations will have different cash operating cycles. There may be little need for inventory, for example, in a company supplying business services, while a company selling consumer goods may have very high levels of inventory. Some companies may operate primarily with cash sales, especially if they sell direct to the consumer, while other companies may have substantial levels of trade receivables as a result of offering trade credit to other companies.

- c) The dividend growth model (DGM) is used widely in valuing ordinary shares and hence in valuing companies, but there are a number of weaknesses associated with its use.

#### The future dividend growth rate

The DGM is based on the assumption that the future dividend growth rate is constant, but experience shows that a constant dividend growth rate is, in reality, very rare. This may be seen as less of a problem if the future dividend growth rate is regarded as an average growth rate.

Estimating the future dividend growth rate is very difficult in practice and the DGM is very sensitive to small changes in this key variable. It is common practice to estimate the future dividend growth rate by calculating the historical dividend growth, but the assumption that the future will reflect the past is an easy one to challenge.

#### The cost of equity

The DGM assumes that the future cost of equity is constant, when in reality it changes quite frequently. The cost of equity can be calculated using the capital asset pricing model, but this model usually employs historical information, which may not reflect accurately expectations about the future.

#### Zero dividends

It is sometimes claimed that the DGM cannot be used when no dividends are paid, but this depends on whether dividends are expected in the future. If dividends are forecast to be paid from a future date, the dividend growth model can be applied at that point to calculate a share price, which can then be discounted to give the current ex dividend share price. Only in the case where no dividends are paid and no dividends are expected to be paid will the DGM have no application.

16.

#### a) Money Market & Capital Market

The **capital Market** deals in financial assets. Financial Assets comprises of shares, debentures, mutual fund etc. The capital market is also known as stock market.

Stock market and money market are two basic components of Financial system. Capital market-deals with long and medium term instruments of financing while money market deals with short term instruments. Some of the points of distinction between capital market and money market are as follows:

SN	Money Market	Capital Market
1.	There is no classification between primary market and secondary market.	There is a classification between primary market and secondary market.
2.	It deals for funds of short-term requirement.	It deals with funds of long-term requirement.
3.	Money market instruments include interbank call money, notice money up to three months, commercial paper, 91 days treasury bills.	Capital Market instruments are shares and debt instruments.
4.	Money market participants are banks, financial institution, Central Bank and Government.	Capital Market participants include retail investors, institutional investors like Mutual Funds, Financial Institution, corporate and banks.

#### b) Factoring & Forfeiting

<b>Basis of Difference</b>	<b>Factoring</b>	<b>Forfeiting</b>
Extent of Finance	Usually 80% of the value of the invoice is considered for advance	100% Financing
Creditworthiness	Factor does the credit rating of the counterparty in case of a non-recourse factoring transaction.	The forfeiting bank relies on the credibility of the availing bank.
Service Provided	Day to day administration of sales and other allied services are provided	No services are provided
Maturity	Advances are short-term in nature	Advances are generally medium-term

- 17.
- (e) **Venture capital financing**  
 Venture capital financing refers to financing of high-risk ventures promoted by new qualified entrepreneurs who require funds to shape their ideas. Here, a financier (called venture capitalist) invests in equity or debt of an entrepreneur (promoter/venture capital undertaking) who has a potentially successful business idea, but does not have the desired record of accomplishment or financial backing.
- (f) **Global depository receipt**  
 Global depository receipt refers to a negotiable certificate, denominated in US Dollars and which represents a non-US company's publicly traded local currency (e.g. Nepalese Rupee) equity shares. Depository receipts are created when the local currency shares are delivered to the depository's local custodian bank, against which the depository bank issues depository receipt in US Dollars. These depository receipts are freely traded in the overseas markets like any other dollar denominated security through either a foreign stock exchange or through over the counter market or among restricted groups like qualified institutional buyers.
- (g) **Financial Distress**  
 Financial distress is defined as a condition where obligations are not met or are met with difficulty. A major disadvantage for a firm taking on higher levels of debt is that it increases the risk of financial distress, and ultimately liquidation. This may have detrimental effect on both the equity and debt holders.
- (h) **Speculative motive of holding cash**  
 It refers to the desire of a firm to take advantage of opportunities which present themselves at unexpected moments and which are typically outside the normal course of business. While the precautionary motive is defensive in nature where the firms make provisions to tide over unexpected contingencies, the speculative motive represents a positive and aggressive approach. Firms aim to exploit profitable opportunities and keep cash in reserve to do so.
- 18.
- (e) **Sensitivity Analysis**  
 Sensitivity analysis is a useful but simple technique for assessing investment risk in a capital expenditure project when there is uncertainty about the estimates of future cash flows. It is recognized that estimates of cash flows could be inaccurate, or that events might occur that will make the estimates wrong.  
 The purpose of sensitivity analysis is to assess how the NPV of the project might be affected if cash flow estimates are worse than expected.  
 There are two main methods of carrying out sensitivity analysis on a capital expenditure project.
- Sensitivity analysis can be used to calculate the effect on the NPV of a given percentage reduction in benefits or a given percentage increase in costs.

- Alternatively, sensitivity analysis can be used to calculate the percentage amount by which benefits must fall below estimate or cost rise above estimate before the project NPV becomes negative.

**f) Risk & Uncertainty**

In common parlance, the terms 'Risk & Uncertainty' have synonymous meaning. However, they differ from each other:

Risk may be defined as "the chance of future loss that can be foreseen". In other words, in case of risk an estimate can be made about the degree of happening of the loss. This is usually done by assigning probabilities to the risk on the basis of past data and the probable trends.

Whereas uncertainty may be defined as "the unforeseen chance for future loss or damages." In case of uncertainty since the firm cannot anticipate the future loss and hence it cannot directly deal with it in its planning process, as is possible in the case of risk.

**g) Acid test ratio**

The acid test ratio is the ratio between quick current assets and current liabilities and is calculated by dividing the quick assets by the current liabilities. The acid test ratio is also referred to as a measure of a firm's ability to convert its current assets quickly into cash in order to meet its current liabilities.

The acid test ratio is rigorous measure of a firm's ability to service short term liabilities. the usefulness of the ratio lies in the fact it is widely accepted as the best available test of the liquidity position of a firm.

**h) Residual theory of dividend policy**

The residual theory of dividend policy is that the optimal amount of dividends should be decided as follows:

- If a company has capital investment opportunities that will have a positive NPV, it should invest in them because they will add to the value of the company and its shares.
- The capital to invest in these projects should be obtained internally (from earnings) if possible.
- The amount of dividends paid by a company should be the residual amount of earnings remaining after all these available capital projects have been funded by retained earnings.
- In this way, the company will maximize its total value and the market price of its shares.

A practical problem with residual theory is that annual dividends will fluctuate, depending on the availability of worthwhile capital projects. Shareholders will therefore be unable to predict what their dividends will be.

19.

Dividend yield is calculated as the dividend divided by the share price at the start of the year.

$$2008: \text{dividend yield} = 38.5/740 \times 100 = 5.2\%$$

$$2009: \text{dividend yield} = 40/835 \times 100 = 4.8\%$$

The capital gain is the difference between the opening and closing share prices, and may be expressed as a monetary amount or as a percentage of the opening share price.

$$2008: \text{capital gain} = 835 - 740 = \text{NRs. } 95 \text{ or } 12.8\% (100 \times 95/740)$$

$$2009: \text{capital gain/ (loss)} = 648 - 835 = (\text{NRs. } 187) \text{ or } (22.4\%) (100 \times -187/835)$$

The total shareholder return is the sum of the percentage capital gain and the dividend yield, or the sum of the dividend and the monetary capital gain, expressed as a percentage of the opening share price.

$$2008: \text{total shareholder return} = 100 \times (95 + 38.5)/740 = 18.0\% (5.2\% + 12.8\%)$$

2009: total shareholder return =  $100 \times (-187 + 40) / 835 = -17.6\%$  ( $4.8\% - 22.4\%$ )

The return on equity predicted by the CAPM

The actual return for a shareholder of QSX Co, calculated as total shareholder return, is very different from the return on equity predicted by the CAPM. In 2008, the company provided a better return than predicted and in 2009, the company gave a negative return while the CAPM predicted a positive return.

Year	2009	2008
Total shareholder return	(17.6% )	18.0%
Return on equity predicted by CAPM	8%	12%

20.

- a) Portfolio theory suggests that the total risk of a portfolio of investments can be reduced by diversifying the investments held in the portfolio, e.g. by investing capital in a number of different shares rather than buying shares in only one or two companies. Even when a portfolio has been well-diversified over a number of different investments, there is a limit to the risk-reduction effect, so that there is a level of risk which cannot be diversified away. This undiversifiable risk is the risk of the financial system as a whole, and so is referred to as systematic risk or market risk. Diversifiable risk, which is the element of total risk which can be reduced or minimised by portfolio diversification, is referred to as unsystematic risk or specific risk, since it relates to individual or specific companies rather than to the financial system as a whole. Portfolio theory is concerned with total risk, which is the sum of systematic risk and unsystematic risk. The capital asset pricing model assumes that investors hold diversified portfolios, and so is concerned with systematic risk alone.
- b) The value of a company can be expressed as the present value of its future cash flows, discounted at its weighted average cost of capital (WACC). The value of a company can therefore theoretically be maximised by minimising its WACC. If the WACC depends on the capital structure of a company, i.e. on the balance between debt and equity, then the minimum WACC will arise when the capital structure is optimal. The idea of an optimal capital structure has been debated for many years. The traditional view of capital structure suggests that the WACC decreases as debt is introduced at low levels of gearing, before reaching a minimum and then increasing as the cost of equity responds to increasing financial risk. Miller and Modigliani originally argued that the WACC is independent of a company's capital structure, depending only on its business risk rather than on its financial risk. This suggestion that it is not possible to minimise the WACC, and hence that it is not possible to maximise the value of a company by selecting a particular capital structure, depends on the assumption of a perfect capital market with no corporate taxation. However, real world capital markets are not perfect and companies pay taxes on profit. Since interest is a tax-allowable deduction in calculating taxable profit, debt is a tax-efficient source of finance and replacing equity with debt will decrease the WACC of a company. In the real world, therefore, increasing gearing will decrease the WACC of a company and hence increase its value. At high levels of gearing, the WACC of a company will increase due, for example, to increasing bankruptcy risk. Therefore, it can be argued that use of debt in a company's capital structure can reduce its WACC and increase its value, provided that gearing is kept to an acceptable level.
- c) The objectives of working capital management are usually taken to be profitability and liquidity. Profitability is allied to the financial objective of maximizing shareholder wealth, while liquidity is needed in order to settle liabilities as they fall due. A company must have sufficient cash to meet its

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liabilities, since otherwise it may fail. However, these two objectives are in conflict, since liquid resources have no return or low levels of return and hence decrease profitability. A conservative approach to working capital management will decrease the risk of running out of cash, favoring liquidity over profitability and decreasing risk. Conversely, an aggressive approach to working capital management will emphasize profitability over liquidity, increasing the risk of running out of cash while increasing profitability.

Working capital management is central to financial management for several reasons. First, cash is the life-blood of a company's business activities and without enough cash to meet short-term liabilities, a company would fail. Second, current assets can account for more than half of a company's assets, and so must be carefully managed. Poor management of current assets can lead to loss of profitability and decreased returns to shareholders. Third, for SMEs current liabilities are a major source of finance and must be carefully managed in order to ensure continuing availability of such finance.

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