Institute of Actuaries of India

Subject CT2 – Finance and Financial Reporting

May 2012 Examinations

INDICATIVE SOLUTIONS

Solution 1 :

Ans: A [2]

Solution 2 :

Ans: C [2]

Solution 3 :

Ans: D [2]

Solution 4 :

Ans: D [2]

Solution 5 :

Ans: C [2]

Solution 6 :

Ans: C [2]

Solution 7 :

Ans: B [2]

Solution 8 :

Ans: C [2]

Solution 9 :

Ans: B (buy cheap, sell dear) [2]

Solution 10 :

Ans: D

Dividend cover = earnings per share/ dividend per share = (27.5/50)/0.22= 2.5 times
Dividend yield = dividend per share/Market price per share = 0.22/3.90 = 5.64%

[2]

Solution 11 :

Ans: Gabrielle is risk taking and therefore would suggest her to invest in equity shares. She has no obligations and therefore is free to explore upside potential of investment. No obligations to provide for, could handle the volatility. Main features

1) voting rights
2) last to be paid in case of winding up
3) Potential of high return for high risk
4) Usually highly marketable

Susan seems to have limited means and obligations to provide for and needs certainty. Therefore would suggest her to invest in loan stock that promises regular income and known redemption amount. Main features:

1) no voting rights
2) less volatile than equity shares
3) do not participate in dividend growth enjoyed by
4) usually less marketable than equity shares

[4]

Solution 12 :

Ans : (i) The financial managers of a company seek to maximise the return to the owners of the equity, within the parameters that the latter set out. These involve:

- the variability of anticipated returns (having regard to the nature of the business)
- the owners' desire for immediate profit rather than future high growth
- the degree to which risk should be carried by the owners

(ii) E.g. – interest payments are tax deductible and therefore a company may pursue higher gearing(debt/equity ratio) to reduce its tax liability. Another e.g. could be around difference in tax treatment of dividends and retained earnings.

(iii) An increase in the dividend payout is considered to be good news. The firm is demonstrating that it not only has positive cash flows, but these cash flows are increasing enough to justify a higher payout to shareholders. The firm "proves" its cash flow by paying out some of that cash to its shareholders. Higher dividends may signal permanent higher earnings for the firm

(iv) Dividend cover (earnings/dividend) declined from 4.95 times in 2009 to 3.58 in 2010, further to 2.17 in 2011.

Free cash flow to equity declined from 103 (76-22+49) in 2009 to 91 in 2010 to 83 in 2011

Dividends seem to be funded by cash. The company also seems to be investing in capital projects and undertaking expansion which is a further strain on the funds available for distribution. Therefore an informed customer would know that the decision to further increase the dividends is not a good one and

the company should cut down dividends.

[7]

Solution 13 :

Ans:

Date	Outstanding Bal at BOY	Int on o/s Bal	Capital repaid
31-Dec-2012	34,651	2,079	7,921
31-Dec-2013	26,730	1,604	8,396
31-Dec-2014	18,334	1,100	8,900
31-Dec-2015	9,434	566	9,434

Depreciation charged for 2012 = 20% * 34,651 = 6,930
Depreciation charged for 2013 = 20% * (34,651 – 6,930) = 5,544

[4]

Solution 14 :

Ans (i)

Futures contract	Forward contract
Exchange- traded	Normally OTC
Standarised	tailored

Additional differences mentioned below:

Highly marketable	Non-marketable
Liquid	Ill-liquid

Ans (ii)

Scrip issue	Rights issue
A scrip issue is a further issue of free shares, to existing shareholders in proportion to their existing shareholdings.	A rights issue is a further issue of shares, at a given price, to existing shareholders in proportion to their existing shareholdings.
Aim is to capitalize reserves, total share capital and reserves do not change.	Aim is to raise new money, share capital and reserves increase as a result of issue.

[2]

Solution 15 :

Ans (i)

A: This will reduce current ratio as CA reduces but CL remains unchanged.

B: this will not affect current ratio as no impact on either CA or CL. Only the composition of current assets will change, from debtors to B/R.

C: This will reduce current ratio as stock will reduce by Rs24,000 but cash will increase by only Rs20,000. No impact on CL.

D: This will reduce current ratio as a current liability is created but current assets remain unchanged.

Ans(ii)

We need to calculate the gross profit ratio to test Kabir's efficiency.

Gross profit ratio for 2010 = Gross Profit/ Net Sales * 100 = 225000/900000 * 100 = 25%

Gross profit ratio for 2011 = 360000/1800000 * 100 = 20%

The increase in gross profit does not test the efficiency of the manager as there is an increase in sales as well. As the gross profit ratio has decreased from 25% to 20% this shows that margin of profit has decreased in 2011 and Mr. Gupta is wrong in his opinion.

To test the short term financial position of the company we have to calculate the current ratio.

Current ratio for 2010 = Current assets/ current liabilities = 300000/150000 = 2:1

Current ratio for 2011 = 450000/250000 = 1.8: 1

Since the current ratio has decreased from 2 in 2010 to 1.8 in 2011, financial position of the company has not become strong. So Mr Gupta is again wrong in his decision that short term financial position of the company is becoming strong.

[5]

Solution 16 :

Ans: (I)
Sources of systematic risk

Business or trade cycle

Business activity cycle will tend to affect all businesses at the same time. Some business sectors may be hit earlier and some later in the business cycle and so sector diversification is important. Diversification overseas will also help as not

all economies move in the same cycle. Even with overseas diversification there is a considerable degree of systematic risk because of globalization, the economies of all countries are interdependent today.

Interest rates

Interest rates are a one of most important economic influence that affects all businesses. Severity of the impact will depend on the level of borrowing, creating specific risk. Due to variation in interest rates among different countries International business will be affected in different ways. Interest rates varies due to currency uncertainties and the state of the local economy.

Inflation

Inflation is closely linked to Interest rate. Rising inflation will depress profits short-term but in long run price rises kept pace with inflation. No company can expect to escape the impact of inflation so it is a systematic risk.

Tax

Tax, especially changes in tax, can have an impact on price levels and affect all companies. This only applies to taxes that have an impact on all companies. Some taxes, *eg* a sales tax on beer, will affect only those companies selling beer.

Currency

Currency movements will affect all companies trading in the affected countries to different degrees.

Freak events

International crises, wars, embargoes can all affect the global economy in a way that everyone is affected.

Ans: (II)

Cost of specific securities

(I)	Equity (exiting)	g=[EPS-DPS(1+t)]/P0	=[8-5(1+0.1)]/40 = 6.25%
		ke = (D1/P0) +g	=(5/40)+6.25% = 18.75%
(II)	Equity (New)	ke = (D1/P0) +g	=(5/35)+6.25% = 20.54%
(III)	Debentures		=0.155 (1-0.35) = 10.1%
(IV)	Bank Loan		=0.15 (1-0.35) = 9.75%
(V)	Preference shares	=(Total dividend + dividend tax)/ (Market Value)	
		=(128000+12800)/850000 = 16.56%	

(VI) Weighted average cost of capital

	Weights	Cost	Total cost
Equity shares (Existing)	2,400,000	18.75%	450,000

Equity shares (New)	1,400,000	20.54%	287,560
Preference shares	850,000	16.56%	140,760
Debentures	5,000,000	10.10%	505,000
15% Bank Loan-Long term	1,800,000	9.75%	175,500
14% Bank Loan-Short term*	Nil	0.00%	-
	11,450,000		1,558,820

Overall cost = 1558820/11450000 = 13.61%

[20]

Solution :17

Ans (i) :

Cashflow from operating activity Rs3,95,000 [6,00,000+25,000+4,40,000-7,40,000+70,000]
Cashflow from investing activity (Rs3,20,000)
Cashlflow from financing activity Rs8,00,000
Positive cashflow from operating activities mean that the company will be able to pay off its creditors and o/s rent easily.

Positive cashflow from financing activities and negative cashflow from investing activities indicate that fixed assets have been financed through long term funds which is a sound financial planning.

Ans (ii) :

Income statement for the year ending 31 December 2011

Sales revenue		
Sales	120000	118000
Less: returns inwards	2000	
Cost of sales		
Stock as on 1 Jan 2011	15,000	67,800
Purchases	82,000	
Less: returns outwards	1,200	
Less: loss by fire	6000	

Freight & Duty	2,000	
Less: Stock as at 31 Dec 2011	24000	
Gross profit		**50,200**
Expenses		
Insurance charges	2,400	1,800
Less: prepaid insurance (3 mnths)	600	
Salaries & wages	19,400	19,400
Postage and courier	800	800
Trade expenses	400	400
Carriage outwards	500	500
Rent, rates & taxes	4,600	4,600
Printing &Stationery	1,000	750
Less: unused stock	250	
Bad debts	800	1648
Add: new provision	1248	
Less: old provision	400	
Loss by fire	2000	2000
Depreciation on plant and machinery		
On P&M as at 1 Jan	12000	12250
On additions	250	
Operating Profit		**6,052**
Financing income		
Rent on premises sub-let	2000	1000
Less: advance for 6 months	1000	
Net Profit		**7, 052**

Balance sheet for the year ending 31 December 2011

ASSETS		
Non current assets		
Plant & Machinery	125000	112,750
Less: depreciation	12,250	
Furniture & fixtures	5,000	5,000
Current assets		
Stock	24,000	24,000
Stationery	250	250
Prepaid insurance	600	600
Debtors	20800	18752
Less: B/Ds	800	
Less: Provision	1248	
Insurance co claim	4000	4000
Cash in hand	6200	6200
Cash at HSBC bank	26,500	26,500
		198,052
EQUITY and LIABILITIES		
Equity		
Capital	170,000	177,052
Add: Net Profit	7,052	
Liabilities		
Long term loans	0	0
Current liabilities		
Sundry. creditors	20,000	20,000
Rent received in advance	1000	1000
		198,052

[20]

Solution 18 :

(i)

Total asset turnover = Total sales /total assets	=7.5/5	1.5 times
Additional financing requirement	=5.75-5	0.75 crore

1 x 2 = 2 marks

(ii) Balance sheet

Liabilities		Assets	
Equity Capital	29.11%	Fixed assets	32.00%
Retained earning	12.07%	Cash and Marketable Sec.	2.67%
Long term debt	3.00%	Debtors	15.00%
Sundry creditors	11.00%	Inventory	17.00%
Bank Loan	3.49%		
Other Current Liab	8.00%		
	66.67%		66.67%

Since the total asset turnover ratio is same, all assets items would be expected to change with sales. Sundry creditors and other liabilities are also likely to move with sales

	Previous year	Current year
Sundry creditors	82.5	94.9
Other current liabilities	60.0	69.0

(iii)

Expected net profit after taxes	=862.5 X 0.06	51.75 Lakhs
Dividend payout	=51.75 X 0.40	20.7 Lakhs
Retained earnings	=51.75 X 0.60	31.05 Lakhs

External financing requirement		
Total additional financing required (from (I))		75.00 Lakh
Less	Increase in current liabilities	21.38 Lakh
	Increase in retained earnings(internal funds)	31.05 Lakh
		22.57 Lakh

(iv) **Performa Balance sheet**

Liabilities		Assets	
Equity Capital	218.35	Fixed assets	276.00
Retained earnings (90.5+31.05)	121.55	Cash and Marketable Sec.	23.00
Long term debt	22.50	Debtors	129.38
Sundry creditors	94.87	Inventory	146.63
Bank Loan (26.15+22.58)	48.73		
Other Current Liabilities	69.00		
	575.00		575.00

(V)

Additional funds required	=260 /750 X 112.5	39
(Assets available for turnover/Total sales X add. Sales)		
Available Funds (from (III))	=21.38+31.05	52.43
Financing required		-13.43

So no financing required as it has excess funds for additional sales

[18]

[TOTAL MARKS – 100]

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