

# **Institute of Actuaries of India**

Subject CT2 – Finance & Financial Reporting

**November 2010 Examinations**

**INDICATIVE SOLUTIONS**

## **Introduction**

The indicative solution has been written by the Examiners with the aim of helping candidates. The solutions given are only indicative. It is realized that there could be other points as valid answers and examiner have given credit for any alternative approach or interpretation which they consider to be reasonable.

- |     |   |     |
|-----|---|-----|
| 1.  | A | [2] |
| 2.  | C | [2] |
| 3.  | D | [2] |
| 4.  | D | [2] |
| 5.  | A | [2] |
| 6.  | A | [2] |
| 7.  | B | [2] |
| 8.  | D | [2] |
| 9.  | B | [2] |
| 10. | B | [2] |

11.

a. A – Capital Cover

- A calculation made for loans issued by companies.
- Capital cover is the number of times that the assets of the company (excluding intangibles and after notionally paying current liabilities) cover the amount of loan (including prior ranking loans).

B – Certificate of deposit

- A certificate issued by a bank showing that a stated sum of money has been deposited for a specified time at a specified rate of interest.
- Certificates of deposit can be traded (i.e. sold) by the original depositor.

C – Hedging

- Action taken to protect the value of a portfolio against a change in market prices.
- Hedging involves holding offsetting positions in assets or portfolios the values of which are expected to respond identically to market changes.

D – Liquidity preference

- The liquidity preference theory is based on the generally accepted belief that investors prefer liquid assets to illiquid ones.
- Investors require a greater return to encourage them to commit funds for a longer period.
- Long – dated stocks are less liquid than short-dated stocks, so yields should be higher for long- dated stocks.

b.

- All the profit on selling goods, purchased for Rs 4,25,000, for Rs 6,00,000 i.e. Rs. 1,75,000 – will fall in 2008, the year in which sale was made,
- Profit for the year 2009 is NIL.
- The interest of two months, computed as follows:
  - November 9/45 th of Rs 45,000 = Rs. 9,000/=
  - December 8/45 th of Rs 45,000 = Rs. 8,000/=

(since the sum of digits 1, 2, 3, 4, 5...9 is 45)

- At 31<sup>st</sup> December'2008 there would appear among debtors 7 installments of Rs. 71,667 (Rs. 5,01,739) less a provision for unearned interest and collection cost [Rs 45,000 – Rs 9,000 – Rs 8,000 = Rs 28,000] = Rs. 4,73,739

[8]

12. (a) The three main adjustments are:

- ⇒ Adding back on any business expenses or potential expenditure that are not allowable
- ⇒ Adding back depreciation and deducting the capital allowance
- ⇒ Deducting any special reliefs, eg research and development.

(b) Countries give relief to shareholders to ensure that dividends are not subject to both personal and corporate income tax. Such an “imputed” tax system ensures that there is no disadvantage experienced by the shareholder when a company distributes profits.

However, governments sometimes seek to incentivise companies to retain and reinvest earnings. This may be achieved by levying higher taxes on dividends than on “retained” profits, or by allowing tax relief for new investment (such as the “capital allowances” mentioned above). Profits flowing from such investment would then be taxed in the usual way.

A particular example of this relates to pension provision, where the government may seek to encourage private and institutional pension arrangements by offering tax reliefs (or even subsidies) on contributions and, possibly, investment earnings within the pension scheme.

While the final pension benefit will be subject to tax, when paid, the individual recipient will often benefit from a lower personal tax regime when in retirement. In some countries, such tax advantaged funds are available for other purposes (such as house purchase, medical expenses or education and training finance).

[6]

13. A company will consider the following when deciding on the level of dividend:

- ⇒ Volatility of profit: Stock markets react badly to dividend cuts, therefore directors tend to err on the side of caution so that a cut is not required in hard times.
- ⇒ Cash: Cash reserves can be distributed using dividends in situations where the company cannot use the cash and is concerned that another company might launch a take-over in order to get its hands on the cash pile.
- ⇒ Tax: Tax will have an effect on the dividend distributed, eg companies that are owned by investors paying high rates of income tax will tend to pay small dividends.

- ⇒ Company growth: Companies in industries where there are excellent growth opportunities may prefer to retain profit within the company rather than pay it to shareholders.
- ⇒ Consistency: Stability and consistency is an attractive quality for shareholders because they know whether the company gives a high or low income yield and can choose particular companies to suit their tax position. If companies change dividend policy regularly, their shares will become unpopular with such investors.
- ⇒ Alternative options for finance: Companies with limited options for finance rely heavily on retained profit so will be less generous with dividends.
- ⇒ Competition: Companies paying less than their competitors will be subject to unfavorable comparisons.
- ⇒ Stock market reaction: If the company is paying below what the market believes is appropriate, the shares will be downgraded.

[5]

14. (a) Systematic risk is the element of the variability of investment return that cannot be eliminated by investing in the same type of project many times over, nor by investing in a well-diversified portfolio of different projects.

Specific risk is the element of the variability of investment return that can be eliminated either by repeated investment in a number of similar projects, or failing this by diversification over a number of different projects.

- (b) Systematic risk stems from factors external to the project in question that affect all projects and assets to some degree, eg the economic cycle.

Specific risk therefore stems from factors that are internal and hence specific to the particular project, eg cost overruns arising from incorrect forecasts or poor management.

As specific risks can be eliminated through diversification, investors should not be rewarded by any additional expected return for accepting them.

When appraising a capital project, specific risk should be allowed for by specific risk analysis, and an explicit adjustment to the cash flows concerned, allowing for both the upside and downside risk potential.

Only if this is not possible, perhaps because it is difficult to assess the impact of a particular specific risk, should an adjustment to the risk discount rate used to value the project cash flows be considered.

In contrast, the risk discount rate should be adjusted appropriately to reflect the estimated degree of systematic risk inherent in the project, ie higher systematic risk implies a higher risk discount rate.

This is because:

- ⇒ Historical data suggests that investors typically require a higher level of expected return in return for investing in assets with a higher level of systematic risk – given that they cannot diversify it away.
- ⇒ Increasing the discount rate is consistent with the assumption that risk increases exponentially with time as you look further into the future. Whereas this is unlikely to be the case for a risk that is specific to a particular project, it is a reasonable assumption as regards systematic risk.

[10]

15.

a. (i) Profitability Ratios –

- The profitability ratios are used to check that the company is generating an acceptable return for its owners.
- A number of benchmarks can be used: previous years' figures, ratios calculated for similar businesses, industry averages, etc.
- Management should consider the reasons for any ratios which are poorer than expected to see whether they imply that performance could be improved.

(ii) Liquidity Ratios –

- While it is important for a business to be profitable, profit is not sufficient on its own to guarantee survival.
- There must be sufficient liquid assets available to ensure that short – term commitments can be met.
- Otherwise the company could be forced into liquidation.

(iii) Efficiency Ratios –

- They give insight into the effectiveness of the company's management of the components of working capital.
- These ratios tend to be multiplied by 365 and so expressed as a period of time.

b. (i) Profitability Ratios –

- Return on capital employed.
- Profit margin.
- Asset utilization ratio.

(ii) Liquidity Ratios –

- Current ratio.
- Quick ratio (also called acid test or liquidity ratios).

(iii) Efficiency Ratios –

- Stock (inventory) turnover ratio.
- Debtors turnover ratio.
- Creditors turnover ratio.

[5]

16.

- a. Notes to accounts are detailed disclosures – appropriate explanatory notes and additional information and form part of companies accounts. These are normally presented as a series of notes to the accounts.
- b. The note to the accounts covers –
- Details of the accounting policies used in preparation of the financial statements.
  - Detailed analysis of balance sheet items.
  - Detailed analysis of income statement items.
  - Details of post – balance sheet events.
- c. The difference between the nominal value of the shares and their selling price is called the “share premium account”.
- The share premium account can also be used for:
- The preliminary expenses of forming a company.
  - The expenses and commissions incurred in any issue of shares.
  - Any profit or loss on the issue of loan stock.
  - Any premium paid on the redemption of loan stock.
  - The expenses of issue of loan stock.

**[6]**

17. (i)

(a) Present cost of equity =  $6\% + (2.2 \times 8\%) = 23.6\%$

(b) Estimated ungeared beta, with investment  
 $= (2.2 \times 120/160) + (1.3 \times 40/160) = 1.975$

(c) Estimated geared beta, with investment  
 $= 1.975 \times (1 + (0.333 \times (1 - 0.30))) = 2.436$   
 Working: Debt/equity ratio =  $40/120 = 0.333$

(d) Weighted average cost of capital  
 $= (25.487\% \times 120/160) + (6.30\% \times 40/160)$   
 $= 20.69\%$

Working: Cost of equity, with investment =  $6\% + (2.436 \times 8\%) = 25.487\%$

Cost of debt =  $9\% \times (1 - 0.3) = 6.30\%$

- (ii) (a) Arguably, each project should be evaluated in terms of its own individual risk. That means that the cost of capital is only an appropriate rate if the investment constitutes an overall expansion of the business.
- Even then, it is debatable whether the markets will view the expansion as having the same risk as the company as a whole. The existing cost of capital is, at best, a rough approximation to an appropriate discount rate.

(b) The managers could, in fact, use the project's beta coefficient to calculate the relevant discount rate. With a beta of 1.3, the project should be discounted at  $6\% + (1.3 \times 8\%) = 16.4\%$ .

(iii) The directors are mistaken because the project should really be evaluated in terms of its impact on shareholder wealth.

The shareholders should have diversified portfolios already, so the additional diversification from this project should not really do them any good.

The project has a lower beta than the company as a whole, so the project will reduce the shareholder's weighted average beta and reduce their overall risk profile. That is not necessarily a good thing because the shareholders may prefer a slightly higher risk in order to generate a slightly higher expected return.

Arguably, the directors will be the only real beneficiaries of the diversification effect. The fact that most directors will derive most of their income from that one company and that they have their career tied up in it will make them more exposed to any risks.

[20]

18.

a.

(i)	Freehold land and building at cost –	Rs. 5,20,000/-
	<u>Less: Depreciation to date –</u>	<u>Rs. 1,68,000/-*</u>
	Book value at 31 <sup>st</sup> December'2009 –	<u>Rs. 3,52,000/-</u>

\* Rs. 4,20,000/- x 10/25 = 1,68

Revaluation Reserve –

	Land	Building
Revalued Price	18 0,0 00	520 ,00 0
Book Value at 31st December'2010	(1 00, 00 0)	(25 2,0 00)
	80, 00 0	268 ,00 0

Depreciation for year 2010 –

- Building – Rs. 5,20,000/- x 1/20 = Rs. 26,000/-

(ii) Traditional Accounting – increasing the balance sheet value of assets and increasing the liabilities side by revaluation reserve.

Fair Value accounting – increasing the balance sheet value of assets and recognizing of revaluations in the income statement.

b. (i) Good will cost of control will be –

Purchase consideration –	Rs. 3,40,000/-.
4/5 <sup>th</sup> of ordinary share capital – 2,50,000 x 4/5 =	Rs. 2,00,000.
4/5 <sup>th</sup> of reserves – 85,000 x 4/5 =	<u>Rs. 68,000.</u>
Total	<u>Rs. 2,68,000.</u>

Goodwill = Rs. 3,40,000 – Rs. 2,68,000 = Rs. 72,000/-.

(ii) This equals the holding company's proportion of the change in reserves (of subsidiary) since the date of acquisition –

$$\begin{aligned}
 &= 2,00,000 / 2,50,000 \times (1,50,000 - 85,000) \\
 &= 1,20,000 - 68,000 \\
 &= 52,000.
 \end{aligned}$$

(iii) Minority Interest =

Minority proportion x Net assets (capital + reserves) of subsidiary company at the balance sheet date.

$$= 50,000 / 2,50,000 \times (2,50,000 + 1,50,000) = Rs. 80,000/=.$$

(iv) Consolidated Balance Sheet of "R Ltd"

"R Ltd" and "J Ltd" Balance sheet at 31<sup>st</sup> December 2009 –

Rs (Fig '000)		Rs (Fig '000)	
<u>R Ltd</u>		<u>R Ltd</u>	
Ordinary Share Capital	500	<u>Non current assets</u>	
Reserves	532	Freehold land & building	270
Minority Interest	80	Plant & Machinery	430
10% Unsecured loan stock	120	Share in J Ltd	
7% Debentures	100	Current Assets	810
Current Liabilities	<u>250</u>	Goodwill	<u>72</u>
	<u>1582</u>		<u>1582</u>

c.

(i) Emphasis of matter paragraph – if there is a significant uncertainty which has been disclosed in the accounts the auditor should point it out.

However, if the financial statements give a true and fair view, then the auditor would issue an unqualified opinion.

(ii) Qualified opinion – This may be issued where there is a limitation on the information which the auditor has obtained, or the auditor disagrees with the treatment of a matter, but the auditor is still able to express an opinion of the financial statements.

(iii) Disclaimer of opinion – If the auditor cannot obtain sufficient information to express an opinion, a disclaimer of opinion may be issued.

(iv) Adverse opinion – This is issued where the auditor believes that the financial statements do not give a true and fair view and the effect is so material that a qualified opinion is not adequate to disclose the misleading or incomplete nature of the financial statements.

**[20]**

**[Total Marks 100]**

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