

Institute of Actuaries of India

Subject CT2 – Finance and Financial Reporting

March 2017 Examination

INDICATIVE SOLUTION

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.

<u>Solution 1:</u> B	[2]
<u>Solution 2:</u> D	[2]
<u>Solution 3:</u> A	[2]
<u>Solution 4:</u> D	[2]
<u>Solution 5:</u> C	[2]
<u>Solution 6:</u> E	[2]
<u>Solution 7:</u> B	[2]
<u>Solution 8:</u> A	[2]
<u>Solution 9:</u> C	[2]
<u>Solution 10:</u> A	[2]

Solution 11:

i) $EBITDA = 21,50,000 + 1,50,000 + 1,80,000 + 20,00,000 = 44,80,000$

Analysts are generally concerned that any subjective decisions will be used to manipulate the financial statements. The figure for EBITDA excludes two of the biggest sources of subjectivity in the financial statements: Depreciation and Amortisation.

It may be difficult to restate figures to make these comparable. For example, Company's accounting policy on depreciation does not make it possible to establish whether the company is more or less conservative than similar businesses.

Analysts prefer pre-tax figures because those are generally more comparable with other income sources, and it avoids the subjective estimate of the tax liability. **[4]**

ii) Book Value of Patents at start of 2016 = 18,000,000

Amortisation p.a. based on 15 years of life = 12,00,000

Increase in Earnings based on lower Amortisation = $20,00,000 - 12,00,000 = 8,00,000$

Current Shareholder's earnings based on Old Amortisation Rate = $1.2 * 10,00,000 \text{ shares} = 12,00,000$

New Shareholder's earnings based on revised Amortisation = $10,00,000 + 12,00,000 = 22,00,000$

Expected Price based on Old Amortisation Rate = $1.2 * 16 = 19.2$

Expected Price based on revised Amortisation = $2.2 * 16 = 35.2$

Key Assumptions under these calculations –

- Straight line method of Amortisation used.
- No tax impact on Amortisation
- Market P/E of 16 is robust and does not change basis the change in estimates of useful life of Patents.

[8]**[12 Marks]**

Solution 12:

The company will buy sufficient currency futures contracts to hedge the exposure. These contracts would be organised by an exchange and would be cash-settled through margin payments rather than delivered. Some of the risks to this strategy stem from the company's inability to accurately assess the amount of futures to buy which includes risk of accurately estimating work completion, delay risks, cancellation risks, etc.

Advantages –

- 1) The hedges mitigate the currency risk because:
 - a) If the overseas currency rises relative to the domestic currency, the extra costs of buying the currency to finance the project will be offset by the profit on the futures contracts
 - b) If the overseas currency falls relative to the domestic currency, the company will make a loss on the futures contracts but it will be cheaper to finance the project.
- 2) As this is an exchange-traded contract there is little or no counterparty risk.

Disadvantages

- 1) Using such a hedge does not allow the company to benefit from favourable movements in the exchange rate. If the company wished to achieve this then it could buy call options instead.
- 2) It is possible that the company has foreign currency income, i.e. a natural hedge for its foreign currency costs. However in practice, it is likely that the income will be received much later than the costs will be incurred.
- 3) It is difficult to estimate the quantity of futures contracts required, since it is unlikely that the amounts and timings of the currency required can be accurately estimated in advance for such a large project.

[5 Marks]

Solution 13:

- i)
 - (a) Market may be expecting higher Growth for Gamma than Beta which could be due to quality of management, quality of risks taken, difference in lines of business they operate, etc.

Market may believe that the risk adjusted returns for Gamma are higher than Beta. This could be dependant on the lines of business in which they operate.

There may be some one-off distortion to one of the earnings figures, eg exceptional items over the past year that are not expected to recur in future.

It may be just market anomaly that currently Gamma is getting a higher P/E multiplier than its peer. [3]

- (b) The growth expected in Gamma maybe much higher/ perceived risks be lower than the Beta and market may be paying a premium to Gamma for the same over its NAV.

Beta may have some assets in its books eg. non-tangible assets forming part of NAV which market may not be placing much value on.

The real value of some of Beta's assets may be lower than its book value or real value of some of the liabilities may be higher than the book value.

Some of the assets of Beta may be non-marketable. [2]

ii) Dividend Yield Ratio = Dividend Per share / Market Price per share

Where, Dividend per share = 80% * Rs 10 per share = Rs 8 per share

Market price per share = Earnings Per share * P/E ratio

Earnings Per Share = PBT * (1- Tax Rate)/ Number of shares = 25 crores * (1- 20%) / 1 crore = Rs 20 per share

Market Price per share = Rs 20 per share * 18 = Rs 360 per share

Dividend Yield = 8/ 360 = 2.22%

Dividend Coverage Ratio = Earnings per share/ dividends per share = 20/8 = 2.5 times

[5]

[10 Marks]

Solution 14:

i) According to the cost concept, non-current assets should be valued at cost less depreciation.

According to the going concern concept, accounts should be prepared on the assumption that the business will continue indefinitely in its present form.

[2]

ii) Key guiding principles for setting accounting policies for unusual transactions are -

- a) There is a general requirement that the financial statements give a true and fair view. Amongst other things, that any treatment gives a realistic and representative treatment of the transaction.
- b) The guidance provided by Accounting Regulations Board in this regard should be considered. For example, the objectives of relevance, reliability, comparability and understandability should be applied.
- c) The directors might consider looking at the treatment laid down by standards for similar balances, even though those standards might not be strictly applicable. That would ensure that the logic underlying the chosen treatment was consistent with good accounting practice. [3]

iii) Most of the optimism in making accounting choices is quite visible to the analysts and market participants. For example, companies publish their accounting policies and so it is possible to tell whether a particular approach has been followed and accordingly opinions formed about the price.

The stock market examines information carefully to ensure that it does not misprice securities. If shares are overpriced then there will be opportunities for astute market participants to make profits by identifying the overpriced companies and selling shares.

Market forces would push the shares down and these activities would also draw attention to the distortion.

Markets usually reward companies with good corporate governance which is also reflected from the conservativeness of estimates and accounting policies. Conservative policies also provide ability to the company to present more smooth results in volatile times which can work in favour of its stock price.

[3]

[8 Marks]

Solution 15:

(Rs in Millions)

	Share Capital	Securities Premium A/C	Revaluation Reserves	Retained Earnings Reserves	Total Equity
Balance as at 31st March 2015	300	150	50	100	600
Dividend Payment				(56)	(56)
Rights Issue in Dec 2015	75	56.25			131.25
Profit for the year 2015-16				56.25	56.25
Revaluation of Machinery			1.15		1.15
Balance as at 31st March 2016	375	206.25	51.15	100.25	732.65

Working Notes (Rs in Millions)

- 1) Dividend = 50 Million * (1+12%) = 56
- 2) Rights Issue = Share Capital + Securities Premium
Share Capital = $\frac{1}{4} * 300 = 75$
Securities Premium = $(175-100) * (300 \text{ million} / \text{Rs } 100 \text{ face value}) * \frac{1}{4} = 56.25$
- 3) Profit for the year = 75 Million * (1- 25%) = 56.25
- 4) Revaluation Gain/ (Loss) = Revalued Value – Written Down Value = 3.75 – (5-2.4) = 1.15

[5 Marks]

Solution 16:

- i) Demonetization is the act of stripping a currency unit of its status as legal tender. Demonetization is necessary whenever there is a change of national currency. The old unit of currency must be retired and replaced with a new currency unit. The process of demonetization involves either introducing new notes or coins of the same currency or completely replacing the old currency with new currency.

There are multiple reasons why nations demonetize their local units of currency. Some reasons include to combat inflation, to combat corruption, and to discourage a cash system.

[2]

- ii) Beta is a measure of the volatility, or systematic risk, of a security or a portfolio in comparison to the market as a whole.

A beta of 1 indicates that the security's price moves with the market. A beta of less than 1 means that the security is theoretically less volatile than the market. A beta of greater than 1 indicates that the security's price is theoretically more volatile than the market.

[2]

- iii) Non Recourse factoring is where the supplier sells on its trade debts to a factor in order to obtain cash payments of the accounts before their actual due date. The factor takes over all responsibility for credit analysis of new accounts, payment collection and credit losses.

Recourse factoring only provides early payment of invoices. It is a loan which is secured against the invoices and has a value which automatically fluctuates with the amount that the company sells. Credit risk remains with the original supplier.

[2]

[6 Marks]

Solution 17:

- i) The first problem is in measuring shareholder wealth. This is clearly indicated by the share price, but that can be a volatile indicator, that is not necessarily affected by just the company's efforts to manage the shareholders' wealth.

Furthermore, management decisions that enhance shareholder wealth will only be recognised in the share price once the decision itself is announced. This information might be withheld for commercial reasons.

The second problem is that the directors are often perceived as having their own interests that are at odds with those of the shareholders. They might have an interest in enhancing their own rewards at the expense of the shareholders or of avoiding acceptable risks in order to put their job security before the wellbeing of the shareholders.

[4]

- ii) Given,
 Price of the share = 70
 Div₀ = 10
 Growth (g) = 8%
 Risk free rate (R_f) = 6%
 Risk Premium (R_m-R_f)=5%

Expected Dividend Div₁ = Div₀ * (1+g) = 10 * 1.08 = 10.8

$$\begin{aligned} R_e &= (Div_1/Price)+g \\ &= (10.8/70)+0.08 \\ &= 23.43\% \end{aligned}$$

Now, as per CAPM ,
 $R_e = R_f + (R_m - R_f) * \text{Beta}$
 $23.43 = 6 + 5 * \text{Beta}$
 Hence Beta = 3.486

Now, systematic risk is increased by 80%, i.e, Beta is increased by 80%

New Beta = 6.275

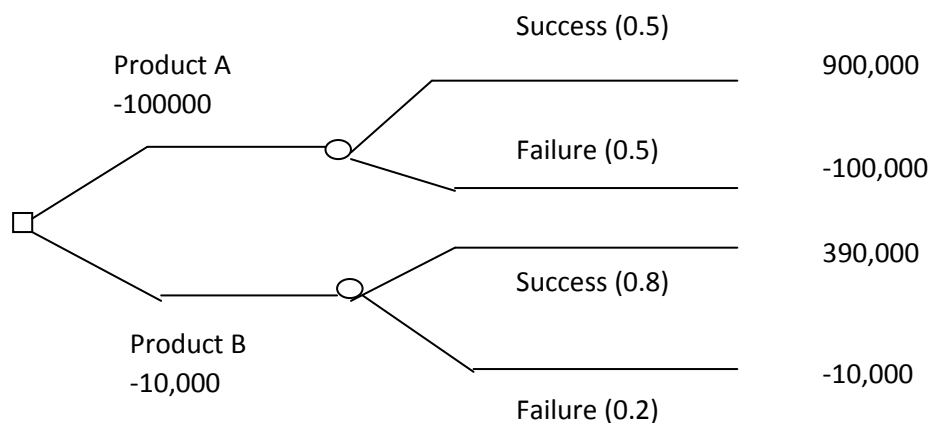
So, New Re = $6 + 5 * 6.275$
 $= 37.375\%$

New share price = $\text{Div 1} / (\text{Re} - g)$
 $= 10.8 / (.37375 - .08)$
 $= 36.77$

Hence share price is expected to fall from current level of Rs 70 to Rs 36.77 i.e, by 33.23%. [4]

[8 Marks]

Solution 18:



Expected value (EV) Calculation

EV is the payoff multiplied by its probability

EV of Product A = EV of Success + EV of Failure
 $= 0.5 * 900000 + 0.5 * (-100000)$
 $= 400,000$

EV of Product B = EV of Success + EV of Failure
 $= 0.8 * 290000 + 0.2 * (-10000)$
 $= 230,000$

Hence, the company should invest in Product A

[4 Marks]

Solution 19:

- i) Main roles of regulation in the financial system are:
- Maintain public/ investor confidence
 - Promote stability of the financial system

- Protect investors
- Maintain international confidence
- Deter fraudulent behaviour

[2]

ii)

- The Reserve Bank supervises via prudential regulations all deposit taking activities as well controls foreign exchange market beside overall stability of financial system and setting monetary policy and payments system.
- SEBI is responsible for financial market integrity, companies consumer protection in relation to financial products and services, and enforcement of law relating to financial products and services. It also licenses and supervises a number of financial market participants such as security brokers, underwriters, depositories, mutual funds etc.
- IRDA is responsible for insurance companies in a manner similar to RBI in arena of banking. It licenses all insurance sector related intermediaries and prudentially supervises over them.

[2]

iii)

Entity	Regulator
Banks	RBI
Superannuation products	IRDA
General Insurance Companies	IRDA
Stock Brokers	SEBI
Mutual Funds	SEBI
The market for listed securities	SEBI
Foreign exchange dealers	RBI
Money Changers	RBI

[4]

[8 Marks]

Solution 20:i) **Investment banks**

An investment (or merchant) bank is a non-bank financial intermediary

which specializes in providing financial services to the market (and more frequently limited services to the higher end of retail market by way of portfolio management services)

They specialise in giving financial advice to companies and in fund management.

A distinguishing feature of these banks is that many of their activities are fee-based for the services rendered, rather than the business of collecting deposits and on lending them. [2]

ii) **Financial services provided by investment banks**

Investment banks offer a range of wholesale financial services including:

- **Money market operations** – the trading, endorsement and rediscounting commercial bills and negotiable certificate of deposits; underwriting and trading promissory notes; dealing in

Government securities; making short-term advances to and accepting deposits from customers.

- **Lending activities** – bill acceptance or discount facilities; term loans and for large amounts, syndicated loans. Provide short term and long term finance to companies(eg through lease agreements)
- **Corporate finance** – advising and underwriting of new share issues; the private placement of securities with institutions or major private investors; advising clients on raising funds; and guidance on takeover, merger strategies and defences.
- **Investment management and advice** – advice to companies on investment, the short-term money market, funds management and best ways to raise capital. Manage pension funds and large private investment portfolios. Provide fund management for unit trusts and investment trust companies
- **Equities trading** – the buying and selling of securities.
- **Others** – Act as trustees (eg for debenture issues), act as counterparties/brokers for OTC derivative contract, a facility used mainly by Pension funds and Insurance funds.

[8]

iii) Sources of funds:

Fees: charged for advice, providing finance, keeping money available for clients, arranging financing for clients from other parties, trading services, investment services, and research.

Dividends: income from investments made in shares.

Interest: income from loans made.

Investments: profits from investments made.

Trading: profit made from buying and selling securities

Others: underwriting commission, trusteeship, bill acceptance

They borrow money by running banking accounts and issuing certificate of deposits.

Application of funds:

Invest in bills, provide loans and leases to companies.

Securities trading

[4]

[14 Marks]
