

Institute of Actuaries of India

Subject CB1-Business Finance

December 2022 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 Marks]
<u>Solution 2:</u> D	[2 Marks]
<u>Solution 3:</u> D	[2 Marks]
<u>Solution 4:</u> C	[2 Marks]
<u>Solution 5:</u> C	[2 Marks]
<u>Solution 6:</u> B	[2 Marks]
<u>Solution 7:</u> B	[2 Marks]
<u>Solution 8:</u> A	[2 Marks]
<u>Solution 9:</u> D	[2 Marks]
<u>Solution 10:</u> C	[2 Marks]

Solution 11:

i) Current Ratio = current asset/current liabilities

For 2022=2.04

2021=2.15

Quick ratio= (current asset - inventories)/current liabilities

For 2022=1.34

2021=1.64

Comments:

The current ratio has decreased slightly over the year than the quick ratio which fell from 1.64x to 1.34x.

The quick ratio falling may indicate that the company may need to reduce the short-term debts.

These ratios need to be compared with similar firms to judge the figures before taking any decision.

The difference between the current ratio and quick ratio is due to the inventory as it appears to be higher in 2022. [Max 4]

ii) The annual report only gives the snapshot of liquidity at accounting year end.

May not be representative of the year as a whole but can give some insight into changes.

The time lag between preparation and publication of the report could result in changes in the company's liquidity position.

For example, a company solvent at year-end may not have readily realisable cash now.

The liquidity risk could be understated by window-dressing of financial reports.

For example, 40% increase in inventory may indicate poor planning in production, missing deadline etc., which may be a serious issue than the liquidity ratio alone.

More than three-fold increase in bank overdraft may need further investigation into the company's cash-flow even if the liquidity ratio is in line with industry's expectation.

Instead of the absolute ratio the departure from the normal levels will give a better idea.

[Max 5]

[9 Marks]

Solution 12:

i)

Initial Investment	150,000			
Discount Rate	9.00%			
	31 Mar 2023	31 Mar 2024	31 Mar 2025	Total
Revenue	120,000	140,000	160,000	
Car running expenses	-18,000	-19,500	-21,000	
Working capital	-10,000		10,000	
	92,000	120,500	149,000	
Fam's Share	46,000	60,250	74,500	
Discount factor	0.91743	0.84168	0.77218	
Present Value	42,202	50,711	57,528	150,441

[1 mark]

[2 marks]

[1 mark]

[2 marks]

[1 mark]

[1 mark]

[Max 8]

ii) Ham has projected the cashflow to make it more attractive as the revenue appears bit inflated and the running expenses appears to be on the lower side.

As this is a major investment for Fam it appears he is taking substantial risk which he could not afford to lose.

Fam needs to evaluate the risk on the basis that the proposed new government regulation of scraping the car next year will reduce the revenue drastically resulting in huge loss.

Fam could set a discount rate ignoring the risk of new government regulation and recalculate the cashflow's and the net present value.

The next step would be to take a subjective decision based on revised NPV whether it is providing sufficient incentive to take the risk of losing his capital.

But in case of an investor with large number of such projects the adjustment of the discount rate for such risk of adverse effects of new regulations may be appropriate.

[1 mark for each point, Max 3]

iii) From part i) calculating the revised cashflow using 20% probability of zero cashflow in 2nd and 3rd year

	31 Mar 2023	31 Mar 2024	31 Mar 2025
Fam's Share	46,000	48,200	59,600
Discount factor	0.9346	0.8734	0.8163
Present Value	42,991	42,100	48,651
NPV of Fam's Cashflow	-16,258		

[Max 2]

[13 Marks]

Solution 13: For a startup or a business which is dealing with considerable temporary uncertainty, it is felt that the price of the ordinary share is abnormally low. Issuing fresh shares under such circumstances may result in the control of the company being diluted if the existing shareholders do not buy all the shares. So the Convertibles is attractive to the issuer. [1.5]

There will be still some dilution when debentures are converted, but this will hopefully be less than that would arise if the shares had been issued when the company was at the transitional stage. [1]

The company has to be reasonably confident that the share price is only temporary depressed, otherwise the debenture holders will not convert. In that case, the company would have to find cash in order to meet the redemption. Convertibles are a means of raising equity during difficult times. [1]

Convertibles can be preferable to straight loan stock because they are self -liquidating and the issuer does not have to offer high rates of interest on the loan stock in order to attract lenders. [1]

They might attract a particular group of investors who are looking for a guaranteed short term income (due lower risk of debt security) plus the possibility of capital gain (large gain from equity) at a later date. [1]

[Max 5]

Solution 14: Overdraft facilities are repayable on demand. If the facility is not managed properly than the bank can demand immediate repayment of an overdraft from Ram's company, with no prior notice. This makes the company vulnerable to a Banks's continuing support. [1.5]

This could have severe consequences for the company such as bankruptcy, as it is often lack of liquidity with an overdraft being called in. [1]

The bank may also use the overdraft facility as a means of monitoring the business' financial health and an excessive reliance could undermine the business' credit rating. [1]

It is undesirable to use overdraft extensively because they are very expensive. [1]

The interest charged on an overdraft is usually higher than on an equivalent loan amount. It would be preferable to use a short-term loan to replace the overdraft. Doing so would also free some of the overdraft facility to provide cover for contingencies. [1.5]

[5 Marks]

Solution 15: The adjustments include:

- adding back any expenses or potential expenditure included in the accounts which are not allowable for tax purpose
- deducting any special reliefs (eg research & development costs)
- adding back depreciation charged
- deducting the 'capital allowances.

[1 mark for each point, **total 3 Marks]**

Solution 16:

- A traditional, incremental approach to budgeting is to base the next year's budget on the current year's result plus an extra amount for estimated growth or inflation next year. Zero-based budgeting starts from the scratch and everything is determined from the beginning. In Zero-based budgeting every line item is set at zero every year and every line item is reviewed or justified each year. [2]
- Incremental budgeting uses more time but is simple and therefore relatively cheap and quick. Zero-based budgeting involves significant time as well as expensive because it covers more detail. [1]
- Traditional budgeting is accounting oriented and focusses only on the cost. Zero-based budgeting is decision oriented. [1]
- Traditional budgeting does not identify inefficiencies in the cost and the potential gaming of budget. Zero-based budgeting decision package is based on cost-benefit analysis. [1]
- Traditional budgeting is most suitable for business in a stable environment whereas Zero-based budgeting is suitable when there is an urgent need to reduce the budget. For example- when a company is going for a financial restructuring or market. Economic downturn. [2]

[5 Max]**Solution 17:** Reasons for company buying its own shares:

- The company has accumulated large amounts of cash which it does not need in running the business and will send a more acceptable message to stakeholders that the company has large surplus to distribute. [1]
- The company wishes to change its capital structure by replacing equity with debt. [1]
- Equivalent dividend may be unacceptable to, say, employees or customers because it may appear that the company is lavishing profits on its shareholders that could otherwise have been used to increase wages or reduce selling prices. [1]
- A share buyback will create the impression that the shareholders are sacrificing some of their equity in the process. [1]
- Share buyback will also avoid any expectation that the future dividends will continue at this level or will increase even further. [1]
- It may be motivated by a desire to rid the company of large cash balance, rather than the result of significant equity balance arising from successful operations. [1]
- The share price may rise on announcement of buy back of shares. However, this is not always the case. [1]
- Such an announcement can be seen as a sign of weakness by the investors, who may think that the company has no ideas or innovative projects to generate returns. [1]
- Some may argue that it is good to reduce the stockpile of cash since it will not be earning a good return. [1]
- Some investors will be happy to realize a capital gain if they have not used their capital gains allowance because they do not have to pay tax on capital gain. [1]
- Beneficial for private shareholders to the extent that capital gains is better than that of dividends (shareholders will have to pay income tax on dividends). [1]
- The effect on company's earning per share will be beneficial since the cash held is only earning deposit rate of interest- much less than its industrial assets. Value of remaining shares will therefore improve. [1]

[8 Max]**Solution 18:**

Resources

- Purpose of takeover eg cross selling , economics of scale, tax advantage
- Synergy of the acquirer with its existing operations
- Offer the acquirer the potential to add value- improving management, reorganizing structure, investing in new technology
- meet the need of more distribution channel (bancassurance)

(0.5 mark each, maximum 2 marks)

About the proposal

- How competitive is the bid
- Sole bidder or competing with other companies
- Structure of the bidding process eg opportunities to revise the bid
- Alternative uses of capital

(0.5 mark each, maximum 2 marks)

Costs

- Cost of takeover- For example- advisors, legal, stamp duty and whether it factored in the price
- How finance could be raised to purchase target shares e.g funds to be raised by rights issue or new debt issue
- Determine the method of payment of target company's shares
- Whether the company will provide cash, loan stock, and or shares of general insurance company in exchange for the shares of the target company- bancassurer
- Method chosen depends on the capital structure of the general insurance company and the extent to which the shareholders of the bancassurer are likely to want to share a risk in the larger company- General insurer

(0.5 mark each , maximum 3 marks)

Market /Shareholders/ Government

- Government policy and relevant regulations and legislation on acquisition
- Need to obtain shareholders approval for purchase of target company shares
- Shareholders reaction if purchase goes ahead
- Market reaction if purchase goes ahead
- Current market conditions

(0.5 mark each , maximum 2.5 marks)

Financial information of target (bancassurer) company

- Statement of financial position information such as gearing , debt, repayment dates, intangible asset valuation, net asset value, working capital
- Profit and loss information such as growth in profits, changes in profit margin, cost levels accounting rules for depreciation and intangible treatment
- Cashflow information such as cash from operating activities and trends over time
- Market information such PE ratios, share price growth in recent years , price to book ratio
- Checking of tax records
- Capital Structure of the target company
- Credit Rating of the target company
- Existence of high-risk investments- eg derivatives and quality of assets held.

(0.5 marks maximum 3.5)

Compatibility and Non-financial matters

- Compatibility of the management style
- Security- Opportunity to decrease the number of competitors in the market
- Management structure

- Pension scheme
- Determination of Goodwill
- Brand name of both the companies
- Competitive position of the companies in the market (0.5 marks maximum 3)

Culture

- Remuneration packages of general Insurance division of bancassurance
- Any legacy issues
- Monopoly considerations
- Market timings
- Time taken to complete purchase
- Negotiation skills of the parties involved
- Determination of Goodwill (0.5 marks maximum3)

[10 Max]

Solution 19:

Depreciation:

Property and vehicles					
Valuation	Land	Buildings	Machinery	Vehicles	Total
Opening Balance	630,000	350,000	139,500	281,250	1,400,750
Revaluation	570,000				570,000
Closing Balance	1,200,000	350,000	139,500	281,250	1,970,750
Depreciation					
Opening Balance		10,500	63,547	168,794	242,841
Revaluation		-10,500			-10,500
Charge for the year		10,500	9,765	15,744	36,009
Sub total		10,500	73,312	184,538	268,350
Net Book Value	1,200,000	339,500	66,188	96,712	1,702,400

i) Calculation of Cost of Sales & Distribution Cost:

Cost of Sales	Amount (Rs)
Cost of Inventory consumed	326,250
factory running costs	78,750
manufacturing Wages	146,250
depreciation(buildings)	10,500
depreciation(machinery)	9,765
	571,515
Distribution	
advertising	49,500
delivery vehicle running costs	38,250
sales salaries	63,000
depreciation of vehicles	15,744
	166,494

(2 marks)

Income statement of XYZ Ltd. For the year ended 31 March 2022	
Revenue	1,264,500
Cost of sales	-571,515
Gross Profit	<u>692,985</u>
Administration Expenses	-2,700
Distribution Costs	-166,494
	<u>523,791</u>
Interest Paid*	<u>-28,800</u>
Profit for year	494,991
	(3 marks)
<u>Notes:</u>	
Interest cover=(Profit before tax and interest)/ (Interest payments)	
Interest Payments =	28,800* (1 mark)

[Max 6]

ii)

Statement of changes in equity for the year ended 31 March 2022				
	Share capital	Revaluation Reserve	Retained earnings	Total
Opening Balance	157,500	180,000	196,475	533,975
Dividend of previous years			112500	112500
Revaluation		580,500		580,500
Profit For the year			494,990	494,990
Dividend of current year*			0	0
Closing Balance	157,500	760,500	803965	1721965

[Max 5]

iii) Calculation of Cash in Hand:

$$(27,000 + 94,500 + \text{Cash in Hand}) / (59,185 + 112,500 + 42,750) = 1.615878$$

$$\text{Cash in Hand} = 225,000$$

(2 marks)

Statement of financial position as at 31 March 2022				
EQUITY AND LIABILITIES				
Equity			ASSETS	
Share capital	157,500		Non-current assets	
Revaluation reserve	760,500	(2 marks)	Property plant and equipment	<u>1,702,400</u>
Retained earnings	<u>803,965</u>			(2 marks)
	<u>1,721,965</u>		Current Assets	

			Cash at hand	225,000
Non-current liability			Inventory	27,000
Loan	<u>225,000</u>		Trade receivables	94,500
				<u>346,500</u>
Current liabilities				
Trade payables	42,750			
Bank	59,185			
Total Liabilities	<u>101,935</u>			
TOTAL EQUITY AND LIABILITIES	<u>2,048,900</u> (1 mark)		Total assets	<u>2,048,900</u> (1 mark)

[Max 9]

iv) The following items will be included in the cashflow statement:

Interest, Dividend paid, Bank overdraft and cash generated from operations which include items like depreciation, increase in inventories, trade receivables and trade payables

[Max 2]

[22 Marks]
