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IDEAL ANSWERS

CA IPCC

Financial Management

May, 2012 Exam Paper

An analysis of exam paper

100% Questions from the concepts taught in NPA Classroom

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(Disclaimer: Questions asked in the exam may have wrong/inadequate information and/or ambiguous language. In that case the answers provided by institute may differ from these Ideal Answers. Every step has been taken to make accurate these answers, still if you find some errors, please bring it to our notice through email.)

Question 1 (c) RES Ltd is an all equity financed company with a market value of Rs. 25,00,000 and cost of equity, $k_e = 21\%$. The company wants to buyback equity shares worth Rs.5,00,000, by issuing and raising 15% perpetual debt of the same amount. Rate of tax may be taken as 30%. After the capital restructuring and applying MM Model (with taxes), you are required to calculate:

- (i) Market value of RES Ltd.
- (ii) Cost of Equity k_e
- (iii) Weighted average cost of capital and comment on it. (5 marks)

Answer 1(c)

Working note:

$$K_o = \frac{EBIT (1 - t)}{V_u} \quad 21\% = \frac{EBIT \times 0.7}{25,00,000} \quad EBIT = 7,50,000$$

Note: For a pure equity firm cost of equity is equal to cost of capital.

(i) Value of levered firm = Value of unlevered firm + Debt x tax rate
 $= 25,00,000 + 5,00,000 \times 30\% = 26,50,000$

Value of equity = Value of firm – Value of debt = 2650000-500000 = 21,50,000

(ii) Cost of equity

$$K_e = \frac{\text{Earning available to equity shareholders}}{\text{Market value of equity}} = \frac{(750000 - 75000) \times 0.7}{2150000} = 21.98\%$$

(iii) Weighted average cost of capital

$$K_o = \frac{EBIT (1 - t)}{V_L} = \frac{7,50,000 \times 0.7}{26,50,000} = 19.81\%$$

Question 1(d) A company is presently having credit sales of Rs. 12 lakh. The existing credit terms are 1/10, net 45 days and average collection period is 30 days. The current bad debts loss is 1.5%. In order to accelerate the collection process further as also to increase sales, the company is contemplating liberalization of its existing credit terms to 2/10, net 45 days. It is expected that sales are likely to increase 1/3 of existing sales, bad debts increase to 2% of sales and average collection period to decline to 20 days. The contribution to sales ratio of the company is 22% and opportunity cost of investment in receivables is 15% (per tax). 50% and 80% of customers in term of sales revenue are expected to avail cash discount under existing and liberalization scheme respectively. The tax rate is 30%. Should the company change its credit terms? (Assume 360 days in a year). (5 marks)

Answer 1(d)

Step 1: Increase in contribution

$$12,00,000 \times \frac{1}{3} \times 22\% = 88,000 \text{ (benefit)}$$

Step 2: Increase in bad debts

$$\text{Existing} = 12,00,000 \times 1.5\% = 18,000$$

$$\text{Proposed} = 16,00,000 \times 2\% = 32,000$$

$$\text{Change} = 14000 \text{ (cost)}$$

Step 3: Increase in cash discount

$$\text{Existing} = 12,00,000 \times 50\% \times 1\% = 6000$$

$$\text{Proposed} = 16,00,000 \times 80\% \times 2\% = 25600$$

$$\text{Change} = 19600 \text{ (cost)}$$

Step 4: Decrease in opportunity costExisting = $12,00,000 \times 78\% \times 30/360 \times 15\% = 11700$ Proposed = $16,00,000 \times 78\% \times 20/360 \times 15\% = 10400$

Change = 1300 (benefit)

Step 5: Income tax $(+88000-14000-19600) \times 30\%$ 54400 $\times 30\%$

16320 (cost)

Note: 15% is cost of own fund hence it will not be considered for tax calculation.

ICAI may consider it for tax purpose, in that case tax will be as follows:

 $(+88000-14000-19600+1300) \times 30\% = 16710$ (cost)**Step 6:** Net benefit $+54400 - 16320 + 1300 = 39380$ **Question 2 (b)** The Balance Sheet of X Ltd. As on 31-3-2011 and 31-3-2012 are as under:

Liabilities	2011	2012	Asset	2011	2012
Equity Share capital (Rs. 10 each)	18,00,000	22,00,000	Fixed Asset (including machine)	20,50,000	18,75,000
General Reserve	7,50,000	6,00,000	Stock	7,10,000	8,95,000
Security premium	50,000	45,000	Debtors	7,25,000	9,80,000
Profit & Loss A/c	4,50,000	5,30,000	Cash Balance	1,25,000	1,80,000
7% Debentures	3,00,000	2,00,000	Preliminary Expenses	35,000	25,000
Creditors	1,50,000	2,15,000			
Provision for tax	1,45,000	1,65,000			
	36,45,000	39,55,000		36,45,000	39,55,000

- (i) Depreciation charge on fixed assets during the year was Rs. 2,05,000. An old machine costing Rs. 2,00,000 (WDV Rs. 80,000) was sold for Rs. 65,000 during the year.
- (ii) Provision for tax made during the year for Rs. 1,78,000.
- (iii) On 1-4-2011 company redeemed debenture of Rs. 1,00,000 at a premium of 5%.
- (iv) Company has issued fully paid bonus shares of Rs. 2,00,000 by capitalization of profit.

Prepare Cash Flow Statement. (8 marks)

Answer 2 (b)

Cash flow Statement
For the financial year 2011-12

Particulars	Amount (Rs.)	Amount (Rs.)
Cash Flow from Operating Activities		
Net Profit after tax	130000	
Adjustment for: Depreciation on Fixed Assets	205000	
Preliminary expenses written off	10000	
Loss on sale of Fixed Machine	15000	
Income Tax provision	178000	
Operating profit before working capital changes	538000	
Increase in debtors	-255000	
Increase in stock	-185000	
Increase in creditors	65000	

Cash generated from operations	163000	
Tax payment	-158000	
Net Cash from Operating Activities		5000
Cash Flow from Investing Activities		
Purchase of Fixed Assets	-110000	
Sale of Fixed Assets	65000	
Net cash from Investing Activities		-45000
Cash flow from Financing Activities		
Issue of Equity shares	200000	
Redemption of Debentures	-105000	
Net cash from Financing Activities		95000
Net Increase in cash & cash equivalents		55000
Cash & cash equivalents at the beginning of period		125000
Cash & cash equivalents at the end of period		180000

Working Notes:**Fixed Assets Account**

Particulars	Amount	Particulars	Amount
To Balance b/d	2050000	By Cash (Sale)	65000
To Cash (Purchase)	110000	By Loss on sale	15000
		By Dep.	205000
		By Balance c/d	1875000
	2160000		2160000

Profit & Loss Appropriation Account

Particulars	Amount	Particulars	Amount
To Bonus shares	200000	By Balance b/d	450000
To Balance c/d	530000	By General Reserve	150000
		By Net profit for the year	130000
	730000		730000

Provision for tax Account

Particulars	Amount	Particulars	Amount
To Cash	158000	By Balance b/d	145000
To Balance c/d	165000	By Profit and Loss a/c	178000
	323000		323000

Question 3(b) STN Ltd. is a readymade garment manufacturing company. Its production cycle indicates that materials are introduced in the beginning of the production phase; wages and overheads accrue evenly throughout the period of cycle. The following figure for the 12 months ending 31st December 2011 are given.

Production of shirts	54,000 units
Selling price per unit	Rs. 200
Duration of the production cycle	1 month
Raw material inventory held	2 month's consumption
Finished goods stock held for	1 month

Credit allowed the debtors is 1.5 months and credit allowed by creditors is 1 month. Wages are paid in the next month following the month of accrual. In the work-in-progress 50% of wage and overheads are supposed to be conversion costs.

The ratios of cost to sales price are – raw materials 60%, direct wages 10% and overheads 20% . Cash is to be held to the extent of 40% of current liabilities and safety margin of 15% will be maintained. Calculate amount of working capital required for the company on a cash cost basis. (8 marks)

Answer 3(b)

Unit cost sheet is as follows:

Particulars	Rs.
Raw Material (200 x 60%)	120
Wages (200 x 10%)	20
Overheads (200 x 20%)	<u>40</u>
Total Cost	180

$$(1) \text{Raw material stock} = \text{Raw material consumed} \times \frac{\text{Raw material storage period}}{12}$$

$$= (54000 \times 120) \times 2/12 = 10,80,000$$

$$(2) \text{Work in process} = \text{Annual production} \times \text{WIP per unit} \times \frac{\text{WIP period}}{12}$$

$$= 54000 \times (120 + 10 + 20) \times 1/12 = 6,75,000$$

Note: raw material is taken at 100% while wages and overheads at 50%.

$$(3) \text{Finished goods stock} = \text{Cash cost of goods sold} \times \frac{\text{Finished goods storage period}}{12}$$

$$= (54000 \times 180) \times 1/12 = 8,10,000$$

$$(4) \text{Debtors} = \text{Cash cost of credit sales} \times \frac{\text{debtors collection period}}{12}$$

$$= (54000 \times 180) \times 1.5/12 = 12,15,000$$

$$(5) \text{Creditors payment period} = \text{Credit purchase} \times \frac{\text{creditors payment period}}{12}$$

$$= (54000 \times 120) \times 1/12 = 5,40,000$$

$$(6) \text{Outstanding wages} = \text{Wages} \times \frac{\text{Outstanding period}}{12}$$

$$= (54000 \times 20) \times 1/12 = 90,000$$

$$(7) \text{Cash in hand} = (\text{Creditors} + \text{outstanding wages}) \times 40\%$$

$$= (5,40,000 + 90,000) \times 40\% = 2,52,000$$

(8) Working capital = 1080000 + 675000 + 810000 + 1215000 – 540000 – 90000 + 252000 = 34,02,000

Plus safety margin = 34,02,000 + 15% = 39,12,300

Note: safety margin may also be calculated ignoring cash.

Question 4(b) ANP Ltd. providing the following information:

Annual cost of saving	Rs.96000
Useful life	5 years
Salvage value	Zero
Internal rate of return	15%
Profitability index	1.05

Table of discount factor:

Discount factor	Years					
15%	0.870	0.756	0.658	0.572	0.497	3.353
14%	0.877	0.769	0.675	0.592	0.519	3.432
13%	0.886	0.783	0.693	0.614	0.544	3.52

You are required to calculate:

- (i) Cost of the project
- (ii) Payback period
- (iii) Net present value of cash inflow
- (iv) Cost of capital (8 marks)

Answer 4(b)

(i) Cost of the project

At IRR annual cash inflows are equal to cost of the project

96000 x PVAF (15%, 5 years)

96000 x 3.352

321792

(ii) Pay-back period

$$\text{Pay back period} = \frac{\text{Initial Investment}}{\text{Annual cash flows}} = \frac{321792}{96000} = 3.35 \text{ years}$$

(iii) Net present value

$$\text{Profitability Index} = \frac{\text{Present Value of inflows}}{\text{Initial outflows}} \quad 1.05 = \frac{PV_I}{321792}$$

Present value of inflows = 321792 x 1.05 = 3,37,882

(iv) Cost of capital

Present value of inflows = Annual inflow x PVAF (r%, n)

337882 = 96000 x PVAF (r%, 5)

3.52 = PVAF (r%, 5)

By looking at the table given in question cost of capital (r) = 13%

Question5 (c) Discuss factors that a venture capitalist should be considered before financing any risky project. (4 marks)

Answer 5(c)

Factors that a venture capitalist should consider before financing any risky project are as follows:

(i) Level of expertise of company's management: Most of venture capitalist believes that the success of a new project is highly dependent on the quality of its management team. They expect

that entrepreneur should have a skilled team of managers. Managements also be required to show a high level of commitments to the project.

(ii) Level of expertise in production: Venture capital should ensure that entrepreneur and his team should have necessary technical ability to be able to develop and produce new product / service.

(iii) Nature of new product / service: The venture capitalist should consider whether the development and production of new product / service should be technically feasible. They should employ experts in their respective fields to examine idea proposed by the entrepreneur.

(iv) Future Prospects: Since the degree of risk involved in investing in the company is quite fairly high, venture capitalists should seek to ensure that the prospects for future profits compensate for the risk. Therefore, they should see a detailed business plan setting out the future business strategy.

(v) Competition: The venture capitalist should seek assurance that there is actually a market for a new product. Further venture capitalists should see the research carried on by the entrepreneur.

(vi) Risk borne by entrepreneur: The venture capitalist is expected to see that the entrepreneur bears a high degree of risk. This will assure them that the entrepreneur have the sufficient level of the commitments to project as they themselves will have a lot of loss, should the project fail.

(vii) Exit Route: The venture capitalist should try to establish a number of exist routes. These may include a sale of shares to the public, sale of shares to another business, or sale of shares to original owners.

(viii) Board membership: In case of companies, to ensure proper protection of their investment, venture capitalist should require a place on the Board of Directors. This will enable them to have their say on all significant matters affecting the business.

Question 5 (d) What is Net Operating income theory of capital structure? Explain the assumptions on which the NOI theory is based. (4 marks)

Answer 5(d)

According to this approach value of a firm is totally independent of its Capital Structure or Financial Leverage. Advocates of this approach argue that overall capitalization rate (cost of capital) of a firm remains constant for all degrees of leverage (or D/E ratio). It has nothing to do with capital structure of the firm, but it is dependent upon the Business Risk of the firm. Thus value of the firm under this approach is : $V = \text{EBIT}/K$

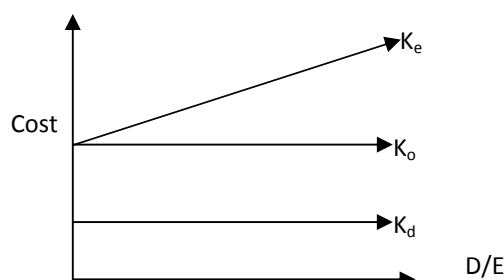
And value of equity is residual value, i.e., value of firm minus value of debt $E = V - D$

Thus cost of equity could be calculated as follows:

$$K_e = \frac{\text{Earning available to equity shareholders}}{\text{Value of Equity (E)}}$$

Assumptions:

- cost of Debt (K_d) is constant
- cost of Equity (K_e) rises with increase in debt equity ratio.
- There is no income tax
- Overall cost of capital (K_o) remains constant for all levels of debt.



Question 6(b) The capital structure of JCPL Ltd. Is as follows:

Equity share capital of Rs. 10 each	8,00,000
8% Preference share capital of Rs. 10 each	6,25,000
10% Debentures of Rs. 100 each	4,00,000
	<u>18,25,000</u>

Additional Information:

Profit after tax (tax rate 30%) Rs.1,82,000.

Operating expenses (including depreciation Rs.90,000) being 1.50 times of EBIT.

Equity share dividend paid 15%.

Market price per equity share Rs.20.

Required to calculate:

- Operating and financial leverage.
- Cover the preference and equity share dividends.
- The earning yield and price earning ratio.
- The net fund flow. (8 marks)

Answer 6(b)

Working notes:

- Profit before tax = $1,82,000 / 70\% = 2,60,000$
- EBIT = PBT + Interest = $2,60,000 + 40,000 = 3,00,000$
Let us assume that depreciation is fixed and other operating expenses are variable.
- Contribution = EBIT + Fixed Cost = $3,00,000 + 90,000 = 3,90,000$
- Operating expenses = $3,00,000 \times 1.5 = 4,50,000$
- Variable expenses = $4,50,000 - 90,000 = 3,60,000$

(i) Operating and financial leverage

$$\text{Degree of operating leverage} = \frac{\text{Contribution}}{\text{Contribution} - \text{Fixed Cost}} = \frac{3,90,000}{3,90,000 - 90,000} = 1.30$$

$$\begin{aligned} \text{Degree of financial leverage} &= \frac{\text{EBIT}}{\text{EBIT} - \text{Interest} - \frac{D_P}{1-t}} = \frac{3,00,000}{3,00,000 - 40,000 - \frac{50,000}{0.70}} \\ &= 1.59 \end{aligned}$$

(ii) Cover the preference and equity share dividend: This language suggests that question want us to calculate a combined coverage ratio for equity & preference dividend.

$$\text{Coverage ratio} = \frac{\text{Profit after tax}}{\text{Equity \& preference dividend}} = \frac{1,82,000}{50,000 + 1,20,000} = 1.07$$

(iii)

$$\text{EPS} = (182000 - 50,000) / 80000 = 1.65$$

$$\text{Earning yield} = \frac{\text{EPS}}{\text{MPS}} = \frac{1.65}{20} = 8.25\%$$

$$\text{PE ratio} = \frac{\text{MPS}}{\text{EPS}} = \frac{20}{1.65} = 12.12 \text{ times}$$

(iv) Net fund flow

$$\text{Fund from operation} = \text{Profit after tax} + \text{Depreciation} = 1,82,000 + 90,000 = 2,72,000$$

Question 7

- (a) "The profit maximization is not an operationally feasible criterion." Comment on it. (4 marks)
- (b) Explain the importance of ratios that would be used in each of the following situations:
- (i) A bank is approached by a company for a loan of Rs.50 lakhs for working capital purposes.
 - (ii) A long term creditor interested in determining whether his claim is adequately secured.
 - (iii) A shareholder who is examining his portfolio and who is to decide whether he should hold or sell his holding in the company.
 - (iv) A finance manager interest to know effectiveness with which a firm uses its available resources. (4 marks)
- (c) Write short notes on the following:
- (i) Deep discount Bonds (2 marks)

Answer 7(a)

Profit Maximisation: It has traditionally been argued that the objective of a company is to earn profit; hence the objective of financial management is also profit maximisation. This implies that the finance manager has to make every decision in a manner so that the profits of the concern are maximised.

However, profit maximisation **cannot be the sole objective** of a company. It is at best a limited objective. If profit is given undue importance, a number of problems can arise. Some of these have been discussed below:

1. The term profit is vague (**not clear**). It does not clarify what it exactly means. It conveys a different meaning to different people. For example, profit may be in short term or long term period; it may be total profit or rate of profit etc.
2. This theory **ignores risk**. There is a direct relationship between risk and profit. Higher the risk, higher is the possibility of profits. If profit maximisation is the only goal, then the finance manager will accept highly risky proposals also, if they give high profits. High risk will increase expectations of investors, which leads to lower value of the company.
3. Profit maximisation as an objective **does not take into account the time pattern** of returns. It accepts proposal with higher profit even if its cash flows arise a later point of time.
4. Profit maximisation as an objective is too narrow. It fails to take into account the **social considerations** as also the obligations to various interests of workers, consumers, society, as well as ethical trade practices. If these factors are ignored, a company cannot survive for long. Profit maximisation at the cost of social and moral obligations is a short sighted policy.

Answer 7(b)

- (i) Before granting a working capital loan bank should check current ratio and quick ratio. Also it can use Maximum permissible bank finance formula of Tandon committee. If liquidity ratios are lower, bank will either not give loan or will give lower amount of loan.
- (ii) Long term creditor should calculate capital structure ratios, like, Debt equity ratio, proprietary ratio, capital gearing ratio etc. If these ratios are more than ideal then the company has higher financial risk and claim of creditor is not safe.
- (iii) An existing shareholder should look into profitability ratios like ROI, ROE etc. also he should estimate EPS of the company and multiply it by price earning ratio to estimate the future market price. Fair price of share may also be calculated using Gordon's model (of growth approach). If the share price is expected to decline, he should sell the share and vice versa.

- (iv) For checking the effectiveness of use of available resources one should calculate activity ratios (means turnover ratios). If turnover ratios rise it shows higher utilization of assets hence profitability increases but utilization beyond optimum point will lead to undercapitalization.

Answer 7(c)

These are issued at a very big discount to the face value while redeemed at par. Again the difference between the face value and issue price is return to the investor. Company can allow such a big discount to the investors because the maturity period of the bond remains very long.

IDBI was the first to issue a deep discount bond in India in January 1992. The bond having a face value of Rs.1 lakh was sold for Rs.2,700 with a maturity period of 25 years. The investor could hold the bond for 25 years or seek redemption at the end of every five years (put option) with a specified maturity value as shown below.

Holding Period (years)	5	10	15	20	25
Maturity value (Rs.)	5,700	12,000	25,000	50,000	1,00,000
Annual rate of interest (%)	16.12%	16.09%	15.99%	15.71%	15.54%

The investor can sell the bonds in stock market and realize the difference between face value (Rs. 2,700) and market price as capital gain. But this bond finally proved unsuccessful because the rate of interest fell in the market & IDBI redeemed bonds to take benefit of lower rate of interest. This bonds are very long term hence not suitable if fluctuating interest rate market.