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IDEAL ANSWERS

CA PCC/IPCC

Financial Management

November, 2010 Exam Paper

An analysis of exam paper

- **100% Questions** from the concepts taught in NPA Classroom
- Questions asked in exam are below the level taught in classroom.

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(Special thanks to my student **Rishikesh Joshi** for cross checking and proof reading)

(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)

MNP Limited has made plans for the next year 2010-11. It is estimated that the company will employ total assets of Rs.25,00,000; 30% of assets being financed by debt at an interest cost of 9% p.a. the direct costs for the year are estimated at Rs.15,00,000 and all other operating expenses are estimated at 2,40,000. The sales revenue are estimated at 22,50,000. Tax rate is assumed to be 40%.

Required to calculate:

(4 Marks)

- (i) Net profit margin (ii) Return on Assets
(iii) Asset turnover (iv) Return on Equity

Answer 1(c)

Particulars	Rs.
Sales	22,50,000
Direct Cost	-15,00,000
Other Operating Expenses	-2,40,000
EBIT	5,10,000
Interest (7,50,000 x 9%)	-67,500
PBT	4,42,500
Tax @40%	-1,77,000
PAT	2,65,500

Note: Debt = 25,00,000 x 30% = 7,50,000

Equity = 25,00,000 x 70% = 17,50,000

$$\text{Net Profit Margin} = \frac{\text{Net Profit}}{\text{Sales}} \times 100 = \frac{2,65,500}{22,50,000} \times 100 = 11.8\%$$

$$\text{Return on Assets} = \frac{\text{Return (EBIT)}}{\text{Assets}} \times 100 = \frac{5,10,000}{25,00,000} \times 100 = 20.4\%$$

$$\text{Asset Turnover} = \frac{\text{Sales}}{\text{Assets}} = \frac{22,50,000}{25,00,000} = 0.9$$

$$\text{Return on Equity} = \frac{\text{Earning Available to Equity Shareholderd}}{\text{Equity Shareholders' Fund}} = \frac{2,65,500}{17,50,000} = 15.17\%$$

Question 1(d)

PQR Ltd. has the following capital structure on October 31,2010:

(4 Marks)

	Rs.
Equity Share Capital (2,00,000 Shares of Rs. 10 each)	20,00,000
Reserve & Surplus	20,00,000
12% Preference Shares	10,00,000
9% Debentures	<u>30,00,000</u>
	<u>80,00,000</u>

The Market price of equity share is Rs.30. It is expected that the company will next year pay dividend of Rs.3 Per share, which will grow at 7% forever. Assume 40% income tax rate. You are required to compute weighted average cost of capital using market value weights.

Answer 1(d)

$$K_e = K_r = \frac{D_1}{P_0} + g = \frac{3}{30} + 0.07 = 17\%$$

$$K_p = \frac{D}{P} = \frac{12}{100} = 12\%$$

$$K_d = \frac{I(1-t)}{P} = \frac{9 \times 0.6}{100} = 5.4\%$$

$$K_o = \frac{K_e \times E + K_r \times R + K_p \times P + K_d \times D}{E + R + P + D}$$

$$= \frac{17\% \times 30L + 17\% \times 30L + 12\% \times 10L + 5.4\% \times 30L}{100L} = 13.02\%$$

Note:

Market value of equity is Rs.60 Lakhs (2 Lakhs x Rs.30). It is divided into ratio of 1:1 between paid up capital and reserve and surplus.

Question 2(b)

RST Limited is considering relating its present credit policy and is in the process of evaluating two proposed policies. Currently, the firm has annual credit sales of Rs.225 lakhs and accounts receivable turnover ratio of 5 times a year. The current level of loss due to bad debts is Rs. 7,50,000. The firm is required to give a return of 20% on the investment in new accounts receivables. The company's variable costs are 60% of the selling price. Given the following information, which is better option?

(8 Marks)

(Amount in Rs. Lakh)

	Present Policy	Policy Option I	Policy Option II
Annual credit sales (Rs)	225	275	350
Accounts receivable turnover ratio	5	4	3
Bad debt losses (Rs)	7.5	22.5	47.5

Answer 2(b)

(Rs. In Lakhs)

Particulars	Present Policy	Option 1	Option 2
1) Contribution (Sales x 40%)	90.0	110.0	140.0
Change in Contribution	-	+20.0	+50.0
2) Bad Debts	7.5	22.5	47.5
Change in Bad Debts	-	-15.0	-40.0
3) Cost of Sales	135.0	165.0	210.0
Debtors (Credit Sales/Turnover Ratio)	27.0	41.25	70.0
Change in Debtors	-	14.25	43.0
Required Return @20%	-	-2.85	-8.6
4) Net Benefit	-	+2.15	+1.4

Decision: Option 1 is better.

Question 3(b)(i) Calculate the degree of operating leverage, degree of financial leverage and the degree of combined leverage for following firms and interpret the results: **(4 Marks)**

	P	Q	R
Output (Units)	2,50,000	1,25,000	7,50,000
Fixed Cost (Rs.)	5,00,000	2,50,000	10,00,000
Unit Variable cost (Rs.)	5	2	7.50
Unit selling price (Rs.)	7.50	7	10.0
Interest expenses (Rs.)	75,000	25,000	-

Answer 3(b)(i)

	P	Q	R
Operating Leverage= $\frac{\text{Contribution}}{\text{Contribution} - \text{Fixed Cost}}$	$\frac{625000}{625000 - 500000} = 5$	$\frac{625000}{625000 - 250000} = 1.67$	$\frac{1875000}{1875000 - 1000000} = 2.14$
Financial Leverage= $\frac{\text{EBIT}}{\text{EBIT} - \text{Interest}}$	$\frac{125000}{125000 - 75000} = 2.50$	$\frac{375000}{375000 - 25000} = 1.07$	$\frac{875000}{875000 - 0} = 1$
Combined Leverage= $\frac{\text{Contribution}}{\text{Contribution} - \text{FC} - \text{Interest}}$	$\frac{625000}{625000 - 500000 - 75000} = 12.5$	$\frac{625000}{625000 - 250000 - 25000} = 1.79$	$\frac{1875000}{1875000 - 1000000 - 0} = 2.14$

Comments: Company P has highest level of business, financial and combined risk. R has higher business risk than Q but it has lower financial risk than Q.

Question 3(b) (ii)

discuss the liquidity vs. profitability issue in management of working capital.

(4 Marks)

Answer 3(b) (ii)

There are two primary objectives of working capital management: 1) Maintain optimum liquidity and 2) enhance profitability. But profitability is inversely related to liquidity. It means if we increase liquidity, profitability reduces and vice versa. This concept can be explained in the following two parts:

- 1) Increase in working capital increases liquidity. But at the same time increased working capital means more borrowings hence more payment of interest and reduced profitability and vice versa.
- 2) While financing the working capital, if we use aggressive approach, temporary working capital is financed through short term sources and even a portion of permanent working capital is financed through short term sources. Short term sources are cheaper hence more profitability but short repayment period results in poor liquidity.

But on the other hand if we use conservative approach, permanent working capital is financed through long term sources and even a portion of temporary working capital is financed through long term sources. In long term sources repayment has to be made after a long period of time, it means higher liquidity but long term sources are expensive and interest has to be paid even if the funds are idle. This results in lower profitability.

Therefore we can conclude that a finance manager has to balance between both liquidity and profitability.

Question 4(a)Balance Sheets of ABC Limited as on March 31, 2009 and March 31,2010 are as under: **(8 Marks)**

Liabilities	31.3.2009 (Rs.)	31.3.2010 (Rs.)	Assets	31.3.2009 (Rs.)	31.3.2010 (Rs.)
Share capital	40,00,000	40,00,000	Land and Building	30,00,000	28,00,000
General Reserve	8,00,000	9,00,000	Plant And machinery	36,00,000	35,00,000
Profit and Loss A/c	5,00,000	7,20,000	Investment(Long term)	8,00,000	7,44,000
10% debentures	20,00,000	16,00,000	Stock	9,60,000	17,00,000
Bank Loan(Long term)	10,00,000	12,00,000	Debtors	12,00,000	15,96,000
Creditors	8,00,000	11,60,000	Prepaid Expenses	1,00,000	80,000
Outstanding Expenses	40,000	50,000	Cash and Bank	2,80,000	1,70,000
Proposed dividend	6,00,000	7,20,000			
Provision for taxation	2,00,000	2,40,000			
	99,40,000	1,05,90,000		99,40,000	1,05,90,000

Additional Information:

- (i) New machinery for Rs. 6,00,000 was purchased but an old machinery costing Rs. 2,90,000 was sold for Rs. 1,00,000 and accumulated depreciation thereon was Rs. 1,50,000.
- (ii) 10% debentures were redeemed at 20% premium.
- (iii) Investments (long term) were sold for Rs.90,000 and its profit was transferred to general reserve.
- (iv) Income-tax paid during the year 2009-10 was Rs. 1,60,000.
- (v) An interim dividend of Rs. 2,40,000 has been paid during the year 2009-10.
- (vi) Assume the provision for taxation as current liability and proposed dividend as non-current liability.
- (vii) Investments (long term) are non-trade investment.

Required:

- i) Schedule of changes in working capital.
- ii) Funds flow from operations for the year ended march 31,2010

Answer 4(a)**Schedule of Changes in working Capital**

Particulars	(Rs.)			
	2009	2010	Increase	Decrease
Current Assets				
Stock	9,60,000	17,00,000	7,40,000	-
Debtors	12,00,000	15,96,000	3,96,000	-
Prepaid Expenses	1,00,000	80,000	-	20,000
Cash and Bank	2,80,000	1,70,000	-	1,10,000
	(a) 25,40,000	35,46,000		
Current Liabilities				
Creditors	8,00,000	11,60,000	-	3,60,000
Outstanding Expenses	40,000	50,000	-	10,000
Provision for Taxation	2,00,000	2,40,000	-	40,000
	(b) 10,40,000	14,50,000		
Net Working Capital	(a)– (b) 15,00,000	20,96,000		
Increase in working Capital	5,96,000	-	-	5,96,000
	20,96,000	20,96,000	11,36,000	11,36,000

Statement of Funds Generated from Operations for the year 2009-10

		(Rs.)
Increase in Profit & Loss Account Balance during the year 2009-10		2,20,000
Depreciation on plant and machinery	5,60,000	
Depreciation on land and building	2,00,000	
Loss on sale of machinery	40,000	
Premium on redemption of debentures (20 Lakhs – 16 Lakhs) x 20%	80,000	
Transfer to general reserve	66,000	
Proposed dividend	7,20,000	
Interim dividend	2,40,000	19,06,000
Funds Generated from Operations		21,26,000

Plant & Machinery A/c

To Balance b/d	36,00,000	By Bank (Sale)	1,00,000
To Bank (Purchase)	6,00,000	By Loss of sale	40,000
		By Depreciation (Balancing figure)	5,60,000
		By Balance c/d	35,00,000
	<u>42,00,000</u>		<u>42,00,000</u>

General Reserve A/c

To Balance c/d	9,00,000	By Balance b/d	8,00,000
		By Investment	34,000
		By Profit and loss (bal. figure)	66,000
	<u>9,00,000</u>		<u>9,00,000</u>

Investment A/c

To Balance b/d	8,00,000	By Bank (sale)	90,000
To General Reserve (Profit on sale)	34,000	By Balance c/d	7,44,000
	<u>8,34,000</u>		<u>8,34,000</u>

Note: Question says that investments are non-trade. Non-trade investments are treated as part of current assets. But at the same time it says that investments are long term, therefore not included in current assets.

Question 4(b)

MNP Ltd sold 2,75,000 units of its product at Rs.37.50 per unit. Variable costs are Rs.17.50 per unit (manufacturing costs of Rs. 14 and selling cost of Rs.3.50 per unit). Fixed costs are incurred uniformly throughout the year and amount to 35,00,000 (including depreciation of Rs.15,00,000). There are no beginning or ending inventories. **(8 Marks)**

Required:

- (i) Estimate breakeven sales level quantity and cash breakeven sales level quantity.
- (ii) Estimate the P/V ratio.
- (iii) Estimate the number of units that must be sold to earn an income (EBIT) of Rs.2,50,000.
- (iv) Estimate the sales level to achieve an after-tax income (PAT) of Rs. 2,50,000. Assume 40% corporate Income Tax rate.

Answer 4(b)

(i)

$$\text{Break even sales quantity} = \frac{\text{Fixed Cost}}{\text{Contribution per unit}} = \frac{35,00,000}{20} = 1,75,000$$

$$\text{Cash Break even sales quantity} = \frac{\text{Cash Fixed Cost}}{\text{Contribution per unit}} = \frac{20,00,000}{20} = 1,00,000$$

(ii)

$$\text{PV Ratio} = \frac{\text{Contribution per unit}}{\text{Selling price}} = \frac{20}{37.5} = 53.33\%$$

(iii) No. of units to be sold to earn an EBIT of Rs.2,50,000 = (2,50,000 + 35,00,000)/20 = 1,87,500

(iv) After tax profit of Rs.250000 means EBIT of Rs.4,16,666 (Rs.250000/0.6) and contribution of Rs.39,16,667 (Rs.416667+3500000). Now No. of units = 3916667/20 = 195833 units.

Question 5(b)

Distinguish between the following:

(8 Marks)

- (i) Profit maximization vs Wealth maximization objective of the firm.
- (ii) Global Depository Receipts and American Depository Receipts.

Answer 5(b)

(i) There are two theories defining objective of financial management:

1. Profit Maximization
2. Wealth Maximization

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 at 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.

Wealth Maximisation: Profit maximisation is a short term policy, hence it is commonly agreed that the objective of a firm should be to **maximise its value** or wealth.

How do we measure the value/wealth of a firm? According to Van Horne, "Value of a firm is represented by the **market price** of the company's common stock." The market price serves as a performance index or report card of the firm's progress. It indicates how well management is doing on behalf of stockholders."

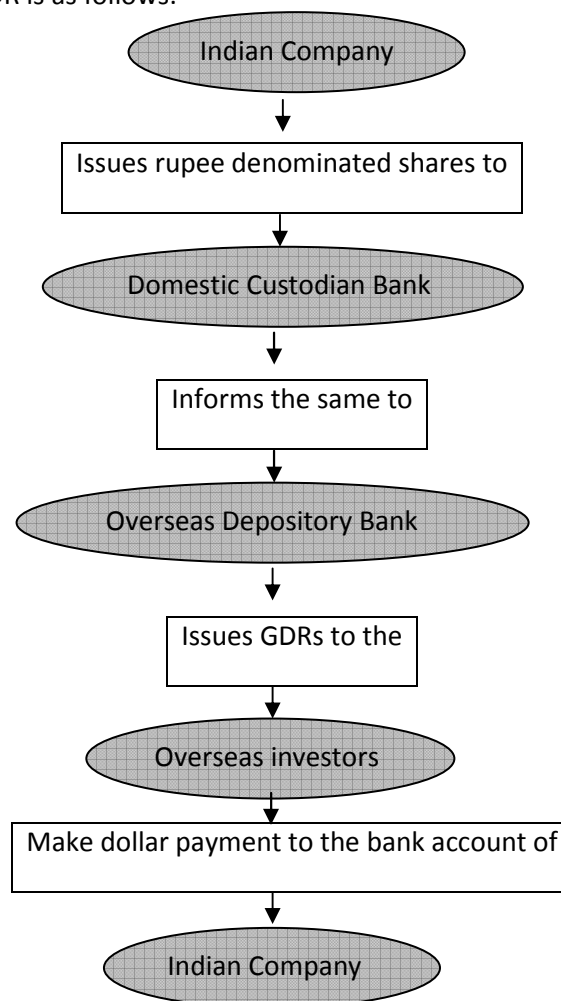
There is no doubt that in short term price of a share also depends upon technical factors, mass psychology & speculative forces but in long term it does reflect the value which the various parties put on a company. Normally, this value is a function of two factors:

1. Likely **performance** of the company in terms of its earnings and
2. **Capitalization rate**, which in turn depends upon risk.

(ii)

A GDR is an instrument that allows Indian companies to raise funds through equity issues abroad. It is a dollar denominated instrument, traded in stock exchanges outside the country of origin e.g. in Europe and South Asia. Though GDRs are dollar denominated (It means that foreign investor make payment in terms of \$ while subscribing GDR) but the underlying shares of Indian company are rupee denominated. Normally there is one share behind one GDR but there may be two or more shares behind one GDR or one share behind two or more GDRs.

The process of issue of GDR is as follows:



American Depository Receipts	Global Depository Receipts
ADRs are issued in the USA.	GDRs are issued in Europe.
ADRs are listed on an American Stock Exchange, e.g., New York Stock Exchange or NASDAQ.	GDRs are listed on any stock exchanges other than American stock exchanges, e.g., London or Luxemburg stock exchange.

Disclosure requirements of SEC are very stringent.	Disclosure requirements for GDRs are less stringent
ADR market is mainly a retail investors market. It leads to wider participation and better valuation of a company's stock.	GDR market is mainly an institutional market, with lower liquidity.

Question 6(a)

A company has to make a choice between two machines X and Y. the two machines are designed differently, but have identical capacity and do exactly the same job. Machine 'X' cost Rs. 5,50,000 and will last for three years. It costs Rs.1,25,000 per year to run. Machine 'Y' is an economy model costing Rs.4,00,000, but will last for two years and costs Rs.1,50,000 per year to run. There are real cash flows. The cost are forecasted in Rupees of constant purchasing power. Opportunity cost of capital is 12%. Ignore Taxes. Which machine company should buy? **(8 Marks)**

Answer 6(a)

Particulars	Machine X	Machine Y
Annual cash flows	-125000	-150000
PVIFA(12%,3)	x2.4019	x1.6901
PV of annual cash flows	-300238	-253515
Initial cash flow	-550000	-400000
NPV	-850238	-653515
PVIFA(12%,3)	÷2.4019	÷1.6901
ENPV	-353985	-386672

Company should purchase machine X.

Question 7**(8 Marks)**

- (c) Discuss the estimation of working capital need based on operating cycle process.
 (d) Discuss financial break-even and EBIT-EPS indifference analysis.

Answer 7**(c)**

Working Capital cycle indicates the length of time between a company's paying for materials, entering into stock and receiving the cash from sales of finished goods. It can be determined by adding the number of days required for each stage in the cycle. For example, a company holds raw materials on an average for 60 days, it gets credit from the supplier for 15 days, production process needs 15 days, finished goods are held for 30 days and 30 days credit is extended to debtors. The total of all these, 120 days, i.e., $60 - 15 + 15 + 30 + 30$ days is the total working capital cycle.

Following is the method of calculation of working capital based on operating cycle process:

- 1) Working capital requirement = Cost of production/ No. of cycles
- 2) No. of cycles = 360/period of operating cycle
- 3) Period of operating cycle =
 - Raw material storage period
 - +Work in process period
 - +Finished goods storage period
 - +Debtors collection period
 - Creditors payment period

- 4) Raw material storage period = $(\text{Stock of raw material} / \text{Raw material consumed}) \times 360$
- 5) WIP period = $(\text{Work in process inventory} / \text{Cost of production}) \times 360$
- 6) Finished goods storage period = $(\text{Stock of finished goods} / \text{Cost of goods sold}) \times 360$
- 7) Debtors collection period = $(\text{Average debtors} / \text{Credit sales}) \times 360$
- 8) Creditors payment period = $(\text{Average creditors} / \text{Credit purchase}) \times 360$

(d)

Financial Break-even

Financial break-even point is the minimum level of EBIT needed to satisfy all the fixed financial charges i.e. interest and preference dividends. It denotes the level of EBIT for which the firm's EPS equals zero.

If the EBIT is less than the financial breakeven point, then the EPS will be negative but if the expected level of EBIT is more than the breakeven point, then more fixed costs financing instruments can be taken in the capital structure, otherwise, equity would be preferred.

Indifference Analysis

Indifference point is the level of EBIT at which EPS is same under the two different financial plans. EBIT-EPS breakeven analysis is used for determining the appropriate amount of debt a firm might carry.

Another method of considering the impact of various financing alternatives on earnings per share is to prepare the EBIT chart or the range of Earnings Chart. This chart shows the likely EPS at various probable EBIT levels. Thus, under one particular alternative, EPS may be Rs. 2 at a given EBIT level. However, the EPS may go down if another alternative of financing is chosen even though the EBIT remains at the same level. At a given EBIT, earnings per share under various alternatives of financing may be plotted. A straight line representing the EPS at various levels of EBIT under the alternative may be drawn. Wherever this line intersects, it is known as break-even point. This point is a useful guide in formulating the capital structure.

