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**IDEAL ANSWERS**

**CA PCC/IPCC**

**Financial Management**

May, 2011 Exam Paper

**An analysis of exam paper**

**100% Questions from the concepts taught in NPA Classroom**

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(Special thanks to my student Sandesh Jain 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(a)**

You are given two financial plans of a company which has two financial situations. The detailed information are as under:

|                             |                           |
|-----------------------------|---------------------------|
| Installed Capacity          | 10,000 units              |
| Actual production and sales | 60% of installed capacity |
| Selling price per unit      | ₹ 30                      |
| Variable cost per unit      | ₹ 20                      |

Fixed Cost:

Situation 'A' = Rs.20,000

Situation 'B' = Rs. 25,000

Capital Structure of the company is as follows:

|                         | Financial Plans |               |
|-------------------------|-----------------|---------------|
|                         | XY(₹)           | XM(₹)         |
| Equity                  | 12,000          | 35000         |
| Debt (Cost of debt 12%) | 40,000          | 10,000        |
|                         | <u>52,000</u>   | <u>45,000</u> |

You are required to calculate operating leverage and financial leverage of both the plans.

(5 marks)

**Answer 1(a)**

Working notes:

Actual production & sales = 10,000 x 60% = 6,000 units

Contribution = 6,000 units x ₹10 = ₹60,000

Interest: XY = 40,000 x 12% = 4,800

XM = 10,000 x 12% = 1,200

|                                                                                              | Plan          | Situation A<br>Fixed Cost ₹ 20,000  | Situation B<br>Fixed Cost ₹ 25,000   |
|----------------------------------------------------------------------------------------------|---------------|-------------------------------------|--------------------------------------|
| Operating Leverage=<br>$\frac{\text{Contribution}}{\text{Contribution} - \text{Fixed Cost}}$ | XY<br>&<br>XM | $\frac{60000}{60000 - 20000} = 1.5$ | $\frac{60000}{60000 - 25000} = 1.71$ |
| Financial Leverage=<br>$\frac{\text{EBIT}}{\text{EBIT} - \text{Interest}}$                   | XY            | $\frac{40000}{40000 - 4800} = 1.14$ | $\frac{35000}{35000 - 4800} = 1.16$  |
|                                                                                              | XM            | $\frac{40000}{40000 - 1200} = 1.03$ | $\frac{35000}{35000 - 1200} = 1.04$  |

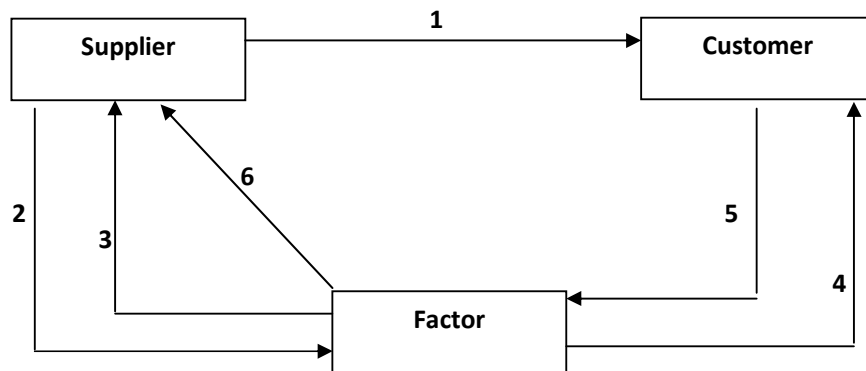
**Question 1(d)**

What is factoring? Enumerate the main advantages of factoring.

(5 marks)

**Answer 1(d)**

In simple words one can say that factor is a recovery agent of the supplier but exact meaning of factoring can be understood with the help of following flow diagram:



1 = Supplier provides good & Original invoice to the customer.

2= Supplier gives copy of invoice to the factor.

3= Factor gives Advance after deducting margin amount.

4= Factor follows up customer for recovery of invoice amount.

5= Customer makes payment to the Factor

6= Factor makes payment of the margin money after deducting commission & interest.

Factoring may be recourse or non recourse. In case of non recourse factoring risk of bad debts is taken by the factor. Following are the advantage of factoring:

- 1) Recovery task is done by the factor hence supplier can focus on sale and increase its sales.
- 2) Factor provides advance around 80-90% while a bank gives loan around 50-60% only of the value of debtors.
- 3) In case of default by customer, factor also assumes risk of bad debts hence uncertainty of supplier reduces.
- 4) Factor maintains debtors ledger.
- 5) Factor provides advisory services.
- 6) Factor provide invoice by invoice advance while determines drawing power on the basis of month end debtors only.

**Question 2(b)** The marketing manager of XY Ltd. is giving a proposal to the Board of Directors of the company that an increase in credit period allowed to customers from the present one month to two months will bring a 25% increase in sales volume in the next year.

The following operational data of the company for the current year are taken from the records of the company:

|                | ₹         |
|----------------|-----------|
| Selling price  | 21 p.u.   |
| Variable price | 14 p.u.   |
| Total cost     | 18 p.u.   |
| Sales value    | 18,90,000 |

The board, by forwarding the above proposal and data requests you to give your expert opinion on the adoption of the new credit policy in next year subject to a condition that the company's required rate of return on investment is 40%. **(8 marks)**

**Answer 2(b)**

Working Notes:

- 1) Sales qty. = ₹18,90,000 / ₹21 = 90,000 units
- 2) Fixed cost per unit = ₹18-₹14 = ₹4
- 3) Total fixed cost = ₹4 x 90,000 = ₹3,60,000
- 4) Contribution per unit = 21-14 = ₹7

**Step1:** Increase in contribution

90,000 units x 25% x 7 = ₹1,57,500

**Step2:** required return on increased investment

| Particulars                   | Existing (1 month) | Proposed (2 months) |
|-------------------------------|--------------------|---------------------|
| Sales quantity                | 90,000             | 1,12,500            |
| Variable cost @Rs.14          | 12,60,000          | 15,75,000           |
| Fixed Cost                    | 3,60,000           | 3,60,000            |
| Total cost of sale            | 16,20,000          | 19,35,000           |
| Debtors (COS x Cr. period/12) | 1,35,000           | 3,22,500            |

Increase in debtors = 322500 – 135000 = 187500

Required return = 187500 x 40% = 75000

**Step3:** Net benefit

157500 – 75000 = ₹82500

**Conclusion:** Company should accept this proposal.

**Question 3** The management of MNP company Ltd. Is planning to expand its business and consult you to prepare an estimated working capital statement. The records of the company reveal the following annual information:

|                                                                                       |           |
|---------------------------------------------------------------------------------------|-----------|
| Sales – Domestic at one month's                                                       | 24,00,000 |
| Export at three month's credit (Sales price 10% below domestic price)                 | 10,80,000 |
| Material used (suppliers extend two months credit)                                    | 9,00,000  |
| Lag in payment of wages – ½ month                                                     | 7,20,000  |
| Lag in payment of manufacturing expenses(Cash) -1 month                               | 10,80,000 |
| Lag in payment of administrative expenses-1 month                                     | 2,40,000  |
| Sales promotion expenses payable quarterly in advance                                 | 1,50,000  |
| Income tax payable in four installments of which one falls in the next financial year | 2,25,000  |
| Rate of gross profit is 20%                                                           |           |
| Ignore work-in-progress and depreciation.                                             |           |

The company keeps one month's stock of raw materials and finished goods (each) and believes in keeping Rs. 2,50,000 available to it including the overdraft limit of Rs. 75,000 not yet utilized by the company.

The management is also of the opinion to make 12% margin for contingencies on computed figure. You are required to prepare the estimated working capital statement for the next year. **(16 marks)**

### Answer 3

(1) Calculation of cash cost of sales:

| Particulars                    | Amount (₹)     |
|--------------------------------|----------------|
| Raw Material Consumed          | 900000         |
| Wages                          | 720000         |
| Cash Manufacturing expenses    | 1080000        |
| <b>cash cost of goods sold</b> | <b>2700000</b> |
| Administrative expenses        | 240000         |
| Sales promotion expenses       | 150000         |
| <b>Cash cost of sales</b>      | <b>3090000</b> |

(2) to divide cost of sales into domestic & export sales, we need to put both on same grounds. If export sales would have been at a price equal to domestic selling price then:

Export sales = 10,80,000/.9 = 12,00,000

Now the ratio between domestic & export sales = 24 lakhs : 12 Lakhs i.e., 2:1

Cash cost of domestic sales = 3090000 x 2/3 = 20,60,000

Cash cost of export sales = 3090000 1/3 = 10,30,000

(3) Domestic Debtors

$$\text{Debtors} = \text{Cash cost of Credit Sales} \times \frac{\text{Credit Period}}{12} = 20,60,000 \times \frac{1}{12} = 1,71,667$$

(4) Export Debtors

$$10,30,000 \times \frac{3}{12} = 257500$$

$$(5) \text{ Creditors} = \text{Credit Purchase} \times \frac{\text{Credit period}}{12} = 900000 \times \frac{2}{12} = 150000$$

Note: it is assumed that purchase is equal to raw material consumed.

$$(6) \text{ Outstanding wages} = \text{Wages} \times \frac{\text{Outstanding period}}{12} = 720000 \times \frac{0.5}{12} = 30000$$

$$(7) \text{ Outstanding manufacturing exp.} = \text{Manufacturing Exp.} \times \frac{\text{Outstanding period}}{12} \\ = 1080000 \times \frac{1}{12} = 90000$$

$$(8) \text{ Outstanding administrative exp.} = \text{Administrative Exp.} \times \frac{\text{Outstanding period}}{12}$$

$$= 240000 \times \frac{1}{12} = 20000$$

$$(9) \text{ Prepaid selling exp.} = \text{Selling Exp.} \times \frac{\text{Prepaid period}}{12} = 150000 \times \frac{3}{12} = 37500$$

$$(10) \text{ Raw material stock} = \text{Raw material consumed} \times \frac{\text{Storage period}}{12} = 900000 \\ = 1080000 \times \frac{1}{12} = 90000$$

$$(11) \text{ Finished goods stock} = \text{Cash Cost of goods sold} \times \frac{\text{Storage period}}{12} \\ = 2700000 \times \frac{1}{12} = 225000$$

(12) Cash in hand = 1,75,000

(company want to keep available ₹250000 out of which ₹75000 is available in the form of unutilized bank overdraft hence remaining amount is to be kept in the form of cash.)

(13) Working capital = Current Assets – Current Liabilities

$$= (171667 + 257500 + 37500 + 900000 + 225000 + 175000) - (150000 + 30000 + 90000 + 20000) \\ = 1476667$$

$$(14) \text{ Working capital requirement with margin} = 14,76,667 + 12\% = 14,76,667 + 177200 = 1653867$$

**Note:** In calculating working capital, Income tax payable at the end of the year has been ignored. Because we have calculated working capital on cash cost basis hence ignored profit. Now tax is paid out of profit & profit has been ignored therefore provision for taxation should also be ignored.

But there is a chance that ICAI may treat tax payable as current liabilities. In that case Working capital requirement without margin will be  $1476667 - 56250 = 1420417$  and with margin it will be  $1420417 + 170450 = 15,90,867$

$$\text{Income tax payable} = \text{income tax} \times \frac{\text{Outstanding period}}{12} = 225000 \times \frac{3}{12} = 56250$$

#### Question 4

The summarized Balance sheets of XYZ limited as at 31<sup>st</sup> March, 2010 and 2011 are given below:

| Liabilities                | 2010(₹)          | 2011(₹)          | Assets                                     | 2010(₹)          | 2011(₹)          |
|----------------------------|------------------|------------------|--------------------------------------------|------------------|------------------|
| Preference Share capital   | 4,00,000         | 2,00,000         | Plant and Machinery                        | 7,00,000         | 8,20,000         |
| Equity Share Capital       | 4,00,000         | 6,60,000         | Long Term investment                       | 3,20,000         | 4,00,000         |
| Share Premium A/c          | 40,000           | 30,000           | Goodwill                                   | -                | 30,000           |
| Capital redemption reserve | -                | 1,00,000         | Current Assets                             | 9,10,000         | 11,41,000        |
| General reserve            | 2,00,000         | 1,20,000         | Short term investment (less than 2 Months) | 50,000           | 84,000           |
| P & L A/c                  | 1,30,000         | 1,75,000         | Cash and Bank                              | 1,00,000         | 80,000           |
| Current liabilities        | 6,40,000         | 9,00,000         | Preliminary expenses                       | 40,000           | 20,000           |
| Proposed dividend          | 1,60,000         | 2,10,000         |                                            |                  |                  |
| Provision for tax          | 1,50,000         | 1,80,000         |                                            |                  |                  |
|                            | <b>21,20,000</b> | <b>25,75,000</b> |                                            | <b>21,20,000</b> | <b>25,75,000</b> |

Additional information:

During the year 2011 the company:

- Preference share capital was redeemed at a premium of 10% partly out of proceeds issue of 10,000 equity share of Rs.10 each issued at 10% premium and partly out of profits otherwise available for dividends.
- The company purchased plant and machinery for Rs. 95,000. It also acquired another company stock Rs. 25,000 and plant and machinery Rs. 1,05,000 and paid Rs. 1,60,000 in Equity share capital for the acquisition.
- Foreign exchange loss of Rs. 1,600 represents loss in value of short term investment.
- The company paid tax of Rs. 1,40,000.

You are required to prepare cash flow statement.

(16 marks)

#### Answer 4

##### Cash & cash equivalents

|                                  | Opening      | Closing      |
|----------------------------------|--------------|--------------|
| Cash & Bank                      | 100000       | 80000        |
| Non Trade Investments            | <u>50000</u> | <u>84000</u> |
|                                  | 150000       | 164000       |
| Add Back: foreign exchange loss  |              |              |
| In short term investments        | <u>-</u>     | <u>1600</u>  |
| Cash & cash equivalents as shown |              |              |
| In cash flow statement           | 150000       | 165600       |

**Cash Flow Statement**

| Particulars                                                   | Amount<br>(Rs.) | Amount<br>(Rs.) |
|---------------------------------------------------------------|-----------------|-----------------|
| <b>Cash Flow from Operating Activities</b>                    |                 |                 |
| Net Profit before tax                                         | 445000          |                 |
| Adjustment for:                                               |                 |                 |
| Preliminary expenses written off                              | 20000           |                 |
| Foreign exchange loss on investments                          | 1600            |                 |
| Depreciation on Plant & machinery                             | <u>80000</u>    |                 |
| Operating profit before working capital changes               | 546600          |                 |
| Increase in current assets                                    | (206000)        |                 |
| Increase in current liabilities                               | 260000          |                 |
| Cash generated from operations                                | 600600          |                 |
| Tax payment                                                   | <u>(140000)</u> |                 |
| Net Cash operating activities                                 |                 | 460600          |
| <b>Cash Flow from Investing Activities</b>                    |                 |                 |
| Purchase of plant                                             | (95000)         |                 |
| Long term investment                                          | <u>(80000)</u>  |                 |
| Net cash from investing activities                            |                 | (175000)        |
| <b>Cash flow from Financing Activities</b>                    |                 |                 |
| Issue of equity shares                                        | 110000          |                 |
| Redemption of Preference shares                               | (220000)        |                 |
| Dividend payment                                              | <u>(160000)</u> |                 |
| Net cash from financing activities                            |                 | <u>(270000)</u> |
| <b>Net Increase in cash &amp; cash equivalents</b>            |                 | 15600           |
| <b>Cash &amp; cash equivalents at the beginning of period</b> |                 | 150000          |
| <b>Cash &amp; cash equivalents at the end of period</b>       |                 | <u>165600</u>   |

**Working notes:****(1) Profit before taxation**

|                               |                |
|-------------------------------|----------------|
| Increase in P&L Account       | 45000          |
| Transfer from General Reserve | -80000         |
| Transfer to CRR               | +100000        |
| Proposed Dividend             | +210000        |
| Provision for income tax      | <u>+170000</u> |
| Profit before taxation        | 445000         |

**(2) Plant & Machinery**

| Particulars        | Rs.           | Particulars                        | Rs.           |
|--------------------|---------------|------------------------------------|---------------|
| To Balance B/d     | 700000        | By Depreciation (balancing figure) | 80000         |
| To Cash (Purchase) | 95000         | By Balance c/d                     | 820000        |
| To equity shares   | 105000        |                                    |               |
| <b>Total</b>       | <b>900000</b> | <b>Total</b>                       | <b>900000</b> |

**(3) Income Tax**

| Particulars    | Rs.           | Particulars               | Rs.           |
|----------------|---------------|---------------------------|---------------|
| To Cash        | 140000        | By Balance b/d            | 150000        |
| To Balance c/d | 180000        | By P&L (balancing figure) | 170000        |
| <b>Total</b>   | <b>320000</b> | <b>Total</b>              | <b>320000</b> |

**(4) Equity Share Capital**

| Particulars    | Rs.           | Particulars                    | Rs.           |
|----------------|---------------|--------------------------------|---------------|
|                |               | By Balance b/d                 | 400000        |
|                |               | By Cash                        | 100000        |
|                |               | By Plant & Machinery           | 105000        |
|                |               | By Stock                       | 25000         |
| To Balance c/d | 660000        | By Goodwill (Balancing figure) | 30000         |
| <b>Total</b>   | <b>660000</b> | <b>Total</b>                   | <b>660000</b> |

**Question 5(b)** What is debt securitization? Explain the basic debt securitization process.

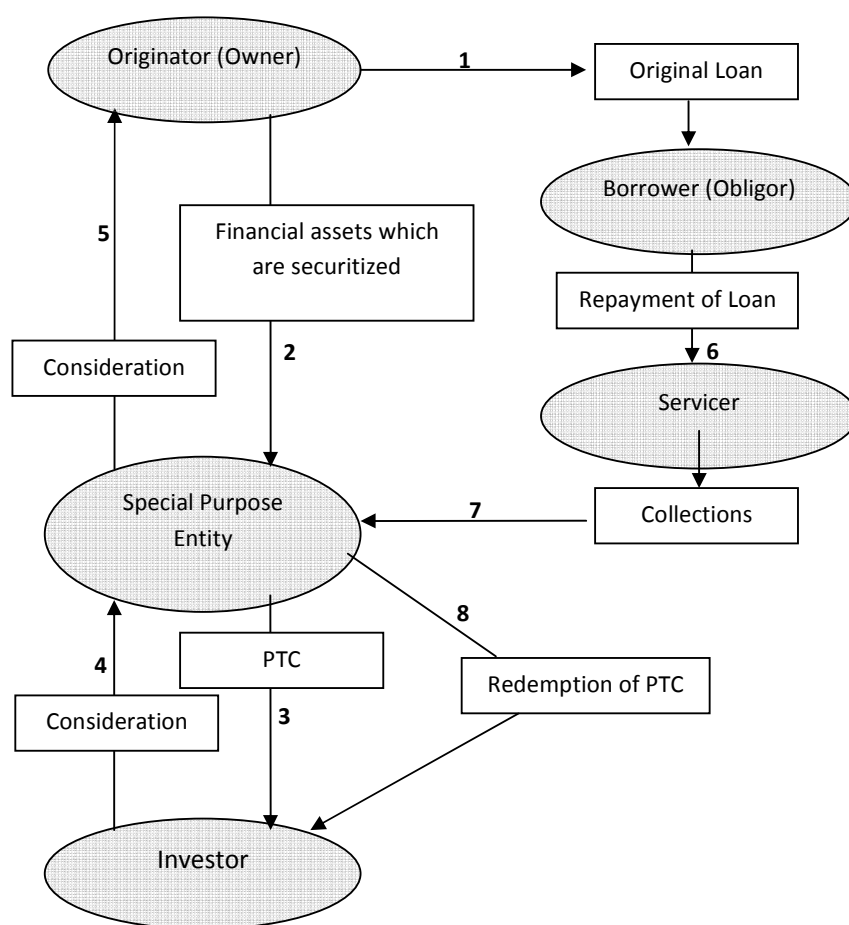
**(4 marks)**

**Answer 5(b)**

Debt Securitization (also known as asset securitization) is the process by which financial assets such as loan receivables, mortgage backed receivables, credit card balances, Hire-purchase debtors, lease receivables, trade debtors, etc. are transformed into securities.

It is a method of recycling of funds. It is especially beneficial to financial intermediaries to support the lending volumes. The basic debt securitization process can be classified in the following three functions:

1. **The origination function:** Whenever a bank, financial institution, leasing company, Hire Purchase Company, credit card company, housing finance company etc. lends money (whether directly or indirectly) to a borrower, there comes into existence an asset in the books of bank. This creation of financial asset is called the origination function.
2. **The pooling function:** Similar loans or receivables are clubbed together to create an underlying pool of assets. This pool is transferred in favour of a SPV (Special Purpose Vehicle), which acts as a trustee for the investor. This pooling of assets is SPV's portfolio is called the pooling function.
3. **The securitization function:** Once the assets are transferred, SPV issue its securities (Called Pass through certificates) to the investor. This issue of securities is called the securitization function.



**Question 6(a)** The management of Z Company Ltd. Wants to raise its funds from market to meet out the financial demands of its long-term project. The company has various combination of proposals to raise its funds. You are given the following proposals of the company:

(i)

| Proposals | % of Equity | % of Debts | % of Preference share |
|-----------|-------------|------------|-----------------------|
| P         | 100         | -          | -                     |
| Q         | 50          | 50         | -                     |
| R         | 50          | -          | 50                    |

(ii) Cost of debt – 10%

Cost of preference share- 10%

(iii) Tax rate – 50%

(iv) Equity shares of the face value of Rs.10 each will be issued at a premium of Rs.10 per share.

(v) Total investment to be raised Rs. 40,00,000.

(vi) Expected earnings before interest and tax Rs. 18,00,000.

From the above proposals the management wants to take advice from you for appropriate plan after computing the following:

- Earnings per share
- Financial break-even-point

Compute the EBIT Range among the plans for indifference. Also indicate if any of the plans dominate. **(12 marks)**

**Answer 6(a)****Calculation of EPS**

| Particulars                                      | Proposal   |          |          |
|--------------------------------------------------|------------|----------|----------|
|                                                  | P          | Q        | R        |
| Earning Before Interest & Tax                    | 1800000    | 1800000  | 1800000  |
| Interest @10%                                    | 0          | -200000  | 0        |
| <b>Profit before tax</b>                         | 1800000    | 1600000  | 1800000  |
| Tax@50%                                          | -900000    | -800000  | -900000  |
| <b>Profit after tax</b>                          | 900000     | 800000   | 900000   |
| Preference dividend @10%                         | 0          | 0        | -200000  |
| <b>Earnings available to equity shareholders</b> | 900000     | 800000   | 700000   |
| No. of equity shares                             | 200000     | 100000   | 100000   |
| <b>EPS</b>                                       | <b>4.5</b> | <b>8</b> | <b>7</b> |

**Notes:**

- 1) It is assumed that cost of debt given in the question is before tax.
- 2) Interest amount in proposal Q = 40,00,000 x 50% x 10% = 2,00,000
- 3) Dividend amount in proposal R = 40,00,000 x 50% x 10% = 2,00,000
- 4) No. of shares P = 40,00,000/20 = 2,00,000 Q&R = 20,00,000/20 = 1,00,000

**Calculation of financial BEP**

It is the level of EBIT at which EPS is zero. Following is the equation

$$\frac{(EBIT - Int.) \times (1 - t) - D_p}{N} = 0$$

$$\text{Proposal P} \quad \frac{(EBIT - 0) \times 0.5}{200000} = 0 \quad EBIT = 0$$

$$\text{Proposal Q} \quad \frac{(EBIT - 200000) \times 0.5}{100000} = 0 \quad EBIT = 2,00,000$$

$$\text{Proposal R} \quad \frac{(EBIT - 0) \times 0.5 - 200000}{100000} = 0 \quad EBIT = 4,00,000$$

**Calculation of Indifference point**

It is the level of EBIT at which EPS is same for two financial plans.

Proposal P & Q:

$$\frac{(EBIT - 0) \times 0.5}{200000} = \frac{(EBIT - 200000) \times 0.5}{100000}$$

$$0.5EBIT = EBIT - 200000$$

$$EBIT = 4,00,000$$

Proposal Q & R:

$$\frac{(EBIT - 200000) \times 0.5}{100000} = \frac{(EBIT - 0) \times 0.5 - 200000}{100000}$$

EBIT will be cancelled hence there is no indifference point between the two.

Proposal R & P:

$$\frac{(EBIT - 0) \times 0.5 - 200000}{100000} = \frac{(EBIT - 0) \times 0.5}{200000}$$

$$EBIT - 400000 = 0.5EBIT$$

$$EBIT = 8,00,000$$

**Conclusion:** Proposal Q is the best because expected EBIT is Rs.18,00,000 which is higher than any indifference point. We know that above indifference point debt plan is best. Therefore Proposal Q is the best. The same is verified by EPS also, plan Q has highest EPS.

**Question 7(b)** Explain the following ratios:

(a) Explain the following ratios:

(i) Operating ratio

(ii) Price earnings ratio

**(4 marks)**

(d) Write Short note on William J. Baumal Vs. Miller- Orr cash management model.

**Answer 7(b)**

$$\text{Operating Ratio} = 100 - \text{Operating Profit Ratio}$$

$$\text{Operating Profit Ratio} = \frac{\text{Operating Profit}}{\text{Sales}} \times 100$$

Operating profit means the profit generated from the principal business activities of the company. It excludes the effect of non operating incomes and expenses. Operating profit may be calculated as follows:

$$\text{Net Profit} + \text{Non operating expenses} - \text{Non operating income} \quad \text{OR}$$

$$\text{Gross profit} - \text{Administrative, selling \& distribution expenses} - \text{Interest} - \text{Income Tax}$$

$$\text{Price earning ratio} = \frac{\text{Market price per share}}{\text{Earning per share}}$$

P/E ratio shows that how many times is market price of company's equity share as compared to its earning per share. P/E ratio is inverse of  $K_e$  ( $= \text{EPS/MPS}$ ). Higher the P/E ratio, lower the  $K_e$  and vice versa. if the P/E ratio for a company's share is higher it means the company is able to maintain higher market price even with a lower earning. It happens usually in case of companies with higher growth opportunities. Higher P/E ratio is preferable from the point of view of company because it maximizes wealth.

**William J. Baumal's Economic Order Quantity model:** If a firm has surplus cash it can invest the same into marketable securities. When it falls short of liquidity it can sell these securities. Now what should be the lot size, while selling securities?

According to this model, optimum lot size is that, where the carrying costs and transactions costs are the minimum. The carrying cost refers to the cost of holding cash, namely, the interest foregone on marketable securities. The transaction cost refers to the cost involved in getting the marketable securities converted into cash, e.g., clerical, brokerage, registration and other costs.

The formula for determining optimum lot size is:

$$EOQ = \sqrt{\frac{2AO}{c}}$$

Where,

EOQ = Optimum lot size

A = Annual (or monthly) cash requirement

O = Fixed cost per transaction

c = Opportunity cost of one rupee p.a. (or p.m.)

**Miller-Orr Cash Management Model:** According to this model the net cash flow in an organization is completely stochastic.. This model is designed to determine the time and size of transfers between an Investment account and cash account.

In this model control limits are set for cash balances. These limits may consist of h as upper limit, z as the return point; and L as the lower limit. When the cash balance reaches the upper limit, the transfer of cash equal to h - z is invested in marketable securities account. When it touches the lower limit, a transfer from marketable securities account to cash account is made. During the period when cash balance stays between (h, z) and (z, L) i.e. high and low limits no transactions between cash and marketable securities account is made. The high and low limits of cash balance are set up on the basis of fixed cost associated with the securities transactions, the opportunity cost of holding cash and the degree of likely fluctuations in cash balances. The following diagram illustrates the Miller-Orr model:

