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Question 1(c)

You are given the following information of 5 firms of the same industry:

Name of the Firm	Change in Revenue	Change in Operating Income	Change in Earning per share
M	28%	26%	32%
N	27%	34%	26%
P	25%	38%	23%
Q	23%	43%	27%
R	25%	40%	28%

You are required to calculate:

- Degree of operating leverage and
- Degree of combined leverage

For all firms. (IPCC-May 2017)(5 marks)

Answer 1(c):

- Degree of Operating Leverage (DOL) = $\frac{\% \text{ change in EBIT}}{\% \text{ change in Sales}}$
- Degree of Combined Leverage (DCL) = $\frac{\% \text{ change in EPS}}{\% \text{ change in Sales}}$

Firm	DOL	DCL
M	$\frac{26\%}{28\%} = 0.928$	$\frac{32\%}{28\%} = 1.142$
N	$\frac{34\%}{27\%} = 1.259$	$\frac{26\%}{27\%} = 0.962$
P	$\frac{38\%}{25\%} = 1.52$	$\frac{23\%}{25\%} = .92$
Q	$\frac{43\%}{23\%} = 1.869$	$\frac{27\%}{23\%} = 1.173$
R	$\frac{40\%}{25\%} = 1.6$	$\frac{28\%}{25\%} = 1.12$

Question 1(d)

VK Co. Ltd. has total cash disbursement amounting Rs.22,50,000 in the year 2017 and maintains a separate account for cash disbursements. Company has an administrative and transaction cost on transferring cash to disbursement account Rs.15 per transfer. The yield rate on marketable securities is 12% per annum.

You are required to determine optimum cash balance according to William J. Baumol Model. (IPCC-May 2017)(5 marks)

Answer 1(d): William J. Baumol'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.)

$$\begin{aligned} EOQ &= \sqrt{\frac{2 * 22,50,000 * 15}{0.12}} \\ &= 23,717 \end{aligned}$$

It means that company should transfer Rs.23717 at a time to the Disbursement account. In this case average balance in this account will be = $23717/2 = 11858$.

Question 2(b)

PQ Limited wants to expand its business and has applied for a loan from a commercial bank for its growing financial requirements. The records of the company reveals that the company sells goods in the domestic market at a gross profit of 25% not counting depreciation as part of the cost of goods sold.

The following additional information is also available for you:

	Rs.
Sales-Home at one month's credit	1,20,00,000
Sales-Export at three months' credit (sale price 10% below home price)	54,00,000
Material used (suppliers extends two months' credit)	45,00,000
Wages paid 1/2 month in arrear	36,00,000
Manufacturing Expenses (Cash) paid (one month in arrear)	54,00,000
Adm. Expenses paid one month in arrear	12,00,000
Income tax payable in four instalments of which one falls in the next financial year	15,00,000

The company keeps one month's stock of each of raw materials and finished goods and believes in keeping Rs.10,00,000 available to it including the overdraft limit of Rs.5,00,000 not yet utilized by the company. Assume a 15% margin for contingencies. Ignore the work-in-progress. You are required to ascertain the requirement of the working capital of the company. (IPCC-May 2017)(8 marks)

Answer 2(b)

Working Note 1:

Particulars	Amount (Rs.)
Raw material consumed	45,00,000
Wages	36,00,000
Manufacturing Expenses	54,00,000
Cash Cost of Goods Sold	1,35,00,000
Administrative Expenses	12,00,000
Cash Cost of Sales	1,47,00,000

Working Note 2:

Export sales at normal selling price = 54,00,000 / 90% = 60,00,000

Ratio of domestic and export sales = 1,20,00,000 : 60,00,000 = 2:1

Cash cost of domestic sales = 1,47,00,000 x 2/3 = 98,00,000

Cash cost of export sales = 1,47,00,000 x 1/3 = 49,00,000

Step 1:

$$\text{Stock of Raw Material} = \text{Raw Material Consumed} \times \frac{\text{Raw Material Storage Period}}{12}$$

$$= 45,00,000 \times \frac{1}{12} = 3,75,000$$

Step 2:

$$\text{Stock of Finished Goods} = \text{Cash Cost of Goods Sold} \times \frac{\text{FG Storage Period}}{12}$$

$$= 1,35,00,000 \times \frac{1}{12} = 11,25,000$$

Step 3:

$$\text{Debtors} = \text{Cash Cost of Credit Sales} \times \frac{\text{Debtors Collection Period}}{12}$$

$$\text{Domestic Debtors} = 98,00,000 \times \frac{1}{12} = 8,16,667$$

$$\text{Export Debtors} = 49,00,000 \times \frac{3}{12} = 12,25,000$$

Note: it is assumed that all the sales are on credit

Step 4:

Cash in hand net of bank overdraft = 10,00,000 – 5,00,000 = 5,00,000

Step 5:

$$\text{Creditors} = \text{Credit Purchase} \times \frac{\text{Creditors Collection Period}}{12}$$

$$= 45,00,000 \times \frac{2}{12} = 7,50,000$$

Step 6:

$$\begin{aligned} \text{Outstanding Wages} &= \text{Wages} \times \frac{\text{Outstandin Period}}{12} \\ &= 36,00,000 \times \frac{0.5}{12} = 1,50,000 \end{aligned}$$

Step 7:

$$\begin{aligned} \text{Outstanding Manufacturing Expenses} &= \text{Manf. Exp.} \times \frac{\text{Outstandin Period}}{12} \\ &= 36,00,000 \times \frac{1}{12} = 3,00,000 \end{aligned}$$

Step 8:

$$\begin{aligned} \text{Outstanding Administrative Expenses} &= \text{Admin Exp.} \times \frac{\text{Outstandin Period}}{12} \\ &= 12,00,000 \times \frac{1}{12} = 1,00,000 \end{aligned}$$

Step 9: Working Capital = Current Assets – Current Liabilities =
 (375000+1125000+816667+1225000+500000) – (750000+150000+300000+100000)
 =2741667

Amount required after provision for contingencies = 27,41,667 + 15% = Rs.31,52,917

Note: Provision for tax has not been considered as current liability because we have calculated working capital on cash cost basis ignoring profit and tax is paid out of profit only. If someone consider tax also then current liabilities will increase by = 15,00,000 x 3/12 = 3,75,000. Hence New working capital requirement will be = 27,21,667.

Question 3(b)

(b) PNR Limited and PXR Limited are identical in every respect except capital structure. PNR Limited does not employ debts in its capital structure whereas PXR Limited employs 12% Debentures amounting to Rs.20,00,000. The following additional information are given to you:

- (i) Income tax rate is 30%
- (ii) EBIT is Rs.5,00,000
- (iii) The equity capitalization rate of PNR Limited is 20% and
- (iv) All assumptions of Modigliani-Miller Approach are net.

Calculate

- (i) Value of both the companies,
- (ii) Weighted average cost of capital for both the companies.

(IPCC-May 2017)(8 marks)

Answer 3(b)

(1) Calculation of value of firms 'PNR Ltd. and 'PXR Ltd' according to Modigliani-Miller approach:

Market value of 'PNR Ltd' (Unlevered)

$$V_u = \frac{\text{EBIT}(1-t)}{K_e} = \frac{5,00,000(1-.30)}{20\%} = \frac{3,50,000}{20\%} = 17,50,000$$

Market value of 'PXR Ltd' (levered)

$$V_g = V_u + TB = 17,50,000 + (20,00,000 \times 0.30) = 23,50,000$$

(2) Computation of weighted average cost of capital (WACC)

WACC of PNR Ltd. = 20% (i.e. $K_e = K_o$)

WACC of PXR Ltd. = $\text{EBIT}(1-t) / \text{Value} = 5,00,000 \times 0.7 / 23,50,000 = 14.89\%$

Question 4 (b)

Following information relate to a concern:

Debtors Velocity	3 months
Creditors Velocity	2 months
Stock Turnover Ratio	1.5
Gross Profit Ratio	25%
Bills Receivables	Rs.25,000
Bills Payables	Rs.10,000
Gross Profit	Rs.4,00,000
Fixed Assets to turnover Ratio	4

Closing stock of the period is 10,000 above the opening stock.

Find out

- Sales and cost of goods sold
- Sundry Debtors
- Sundry Creditors
- Closing Stock
- Fixed Assets. (IPCC-May 2017)(8 marks)

Answer 4(b)

Working Notes:

$$1. \text{ Gross Profit Margin} = \frac{\text{Gross Profit}}{\text{Turnover}} \times 100$$

$$\text{Turnover} = \frac{4,00,000}{25} \times 100$$

$$\text{Turnover} = \text{Rs.}16,00,000$$

$$\text{Sales} - \text{Gross profit} = \text{Cost of goods sold}, 16,00,000 - 4,00,000 = 12,00,000$$

$$2. \text{ Sundry Debtors} = 16,00,000 \times \frac{3}{12} = 4,00,000$$

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$$3. \text{ Stock turnover ratio} = 1.5$$

$$\frac{\text{Cost of goods sold}}{\text{Avg. stock}} = 1.5, \quad \frac{12,00,000}{\text{Avg. stock}} = 1.5,$$

$$\text{Avg. stock} = 8,00,000$$

$$\text{Avg. stock} = \frac{\text{Opening stock} + \text{closing stock}}{2}$$

$$8,00,000 = \frac{x + (x + 10,000)}{2}$$

$$X = 7,95,000 (\text{opening stock})$$

$$\text{Closing stock} = 7,95,000 + 10,000 = 8,05,000$$

$$4. \text{ Sundry Creditors} = 12,10,000 \times \frac{2}{12} = 2,01,667$$

$$\text{Opening stock} + \text{Purchase} - \text{closing stock} = \text{Cost of goods sold}$$

$$7,95,000 + \text{Purchase} - 8,05,000 = 12,00,000$$

$$\text{Purchase} = 12,10,000$$

$$5. \text{ Fixed assets turnover ratio} = \frac{\text{Turnover}}{\text{Fixed assets}}$$

$$4 = \frac{16,00,000}{\text{Fixed assets}}$$

$$\text{Fixed assets} = 4,00,000$$

Question 5(c)

Distinguish between 'Funds Flow' and 'Cash Flow'. (IPCC-May 2017)(4 marks)

Answer 5(c)

Distinguish between 'Funds Flow' and 'Cash Flow' are given below:

- Fund flow statement is based on the accrual accounting system. In case of preparation of cash flow statements all transactions effecting the cash or cash equivalents only is taken into consideration.
- Fund flow statement analyses the sources and application of funds of long term nature and the net increase or decrease in long term funds will be reflected on the working capital of the firm. The cash flow statement will only consider the increase or decrease in current assets and current liabilities in calculating the cash flow of funds from operations
- Fund flow analysis is more useful for long range financial planning. Cash flow analysis is more useful for identifying and correcting the current liquidity problems of the firm.
- Funds flow statement tallies the funds generated from various sources with various uses to which they are put. Cash flow statement starts with the opening balance of cash and reach to the closing balance of cash by proceeding through sources and uses.

Question 5(d)

Distinguish between Profit Maximization' and 'Wealth Maximization' objective of a firm.
(IPCC-May 2017)(4 marks)

Answer 5(d) Distinguish between Profit Maximization' and 'Wealth Maximization' objective of a firm:

Profit maximization of the short-term objective and cannot be the sole objective of a company. It is at best a limited objective. If profit is given under importance, a number of problems can arise like the term profit is vague, profit maximization has to be attempted with a realisation of risks involved, it does not take into account the time pattern of returns and as an objective it is too narrow.

Whereas, on the other hand, wealth maximization, as an objective, means that the company is using its resources in a good manner. If the share value is to stay high, the company has to reduce its costs and use the resources the properly. if the company follows the goal of wealth maximization, it means that the company will promote only those policies that will lead to an efficient allocation of resources.

Question 6(b)

X Limited is considering to purchase of new plant worth Rs.80,00,000. The expected net cash flows after taxes and before depreciation (CFAT) are as follows:

Year	Net Cash Flows (Rs.)
1	14,00,000
2	14,00,000
3	14,00,000
4	14,00,000
5	14,00,000
6	16,00,000
7	20,00,000
8	30,00,000
9	20,00,000
10	8,00,000

The rate of cost of capital is 10%. You are required to calculate:

- Pay-back period
- Net present value at 10% discount factor
- Profitability index at 10% discount factor
- Internal rate of return with the help of 10% and 15% discount factor The following present value table is given for you

Year Present	value of Rs.1 at 10% discount rate	Present value of Rs.1 at 15% discount rate
1	.909	.870
2	.826	.756

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3	.751	.658
4	.683	.572
5	.621	.497
6	.564	.432
7	.513	.376
8	.467	.327
9	.424	.284
10	.386	.247

(IPCC-May 2017)(4 marks)

Answer 6(b)

(i) Payback Period:

Year	CFAT	Cumulative cash flows
1	14,00,000	14,00,000
2	14,00,000	28,00,000
3	14,00,000	42,00,000
4	14,00,000	56,00,000
5	14,00,000	70,00,000
6	16,00,000	86,00,000
7	20,00,000	1,06,00,000
8	30,00,000	1,36,00,000
9	20,00,000	1,56,00,000
10	8,00,000	1,64,00,000

Payback period = $5 + \frac{1000000}{1600000} = 5 + 0.625 = 5.625$ years

(ii) Net present value at 10% discount factor:

Year	CFAT	value of Rs.1 at 10% discount rate	Present value @ 10%
1	14,00,000	.909	12,72,600
2	14,00,000	.826	11,56,400
3	14,00,000	.751	10,51,400
4	14,00,000	.683	9,56,200
5	14,00,000	.621	8,69,400
6	16,00,000	.564	9,02,400
7	20,00,000	.513	10,26,000
8	30,00,000	.467	14,01,000
9	20,00,000	.424	8,48,000
10	8,00,000	.386	3,08,800
Total			97,92,200

NET PRESENT VALUE = PRESENT VALE OF INFLOW – PRESENT VALUE OF OUTFLOW
 $= 97,92,200 - 80,00,000 = 17,92,200$

(iii) Profitability index at 10% discount factor:

$$= \frac{\text{Present value of inflows}}{\text{Present value of outflows}}$$

$$= \frac{97,92,200}{80,00,000} = 1.22$$

(iv) Internal rate of return with the help of 10% and 15 % discount factor:

Return: 10% = +17,92,200,

15% = -1.16,000

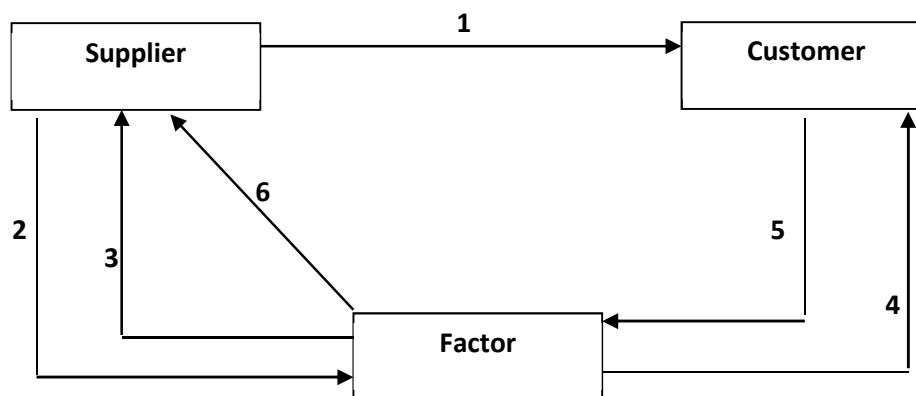
$$\text{IRR} = 10 + \frac{17,92,200}{17,92,200 + 1,16,000} * (15 - 10) = 10 + 4.696 = 14.69 \%$$

Question 7(c)

Explain the meaning and advantages of Factoring. (IPCC-May 2017)(4 marks)

Answer 7

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 7(d) Explain:

- (i) Time Value of Money (IPCC-May 2017)(2 marks)
-

Answer 7(d) Time value of money means that worth of a rupee received today is different from the worth of a rupee to be received in future. The preference of money now as compared to future money is known as time preference for money. A rupee today is more valuable than rupee after a year due to several reasons:

- (i) Preference for present consumption-Most of the persons and companies in general, prefer current consumption over future consumption.
- (ii) Inflation -In an inflationary period a rupee today represents a greater real purchasing power than a rupee a year hence.
- (iii) Risk -there is uncertainty about the receipt of money in future.

Question 7(e)

Explain GDR and ADR. (IPCC-May 2017)(4 marks)

Answer 7(e) Global Depository Receipts (GDRs): It is a negotiable certificate denominated in US dollars which represents a Non-US company's publically traded local currency equity shares. GDRs are created when the local currency shares of an Indian company are delivered to Depository's local custodian Bank against which the Depository bank issues depository receipts in US dollars. The GDRs may be traded freely in the overseas market like any other dollar-expressed security either on a foreign stock exchange or in the over-the-counter market or among qualified institutional buyers.

By issue of GDRs Indian companies are able to tap global equity market to raise foreign currency funds by way of equity. It has distinct advantage over debt as there is no repayment of the principal and service costs are lower.

American Depository Receipts (ADRs): These are depository receipts issued by a company in USA and are governed by the provisions of Securities and Exchange Commission of USA. As the regulations are severe, Indian companies tap the American market through private debt placement of GDRs listed in London and Luxemburg stock exchanges.

Apart from legal impediments, ADRs are costlier than Global Depository Receipts (GDRs). Legal fees are considerably high for US listing. Registration fee in USA is also substantial. Hence ADRs are less popular than GDRs.