3. LEVERAGES

Distinguish between operating leverage and financial leverage

Sr No		Operating leverage	Financial leverage
1	Objective	The objective is to magnify EBIT due to changes in sales	The objective is to magnify EBT/EPS due to changes in EBIT
2	Relationship	It is establishes relationship between operating profit EBIT and sales	It establishes relationship between operating profits & EPS/EBT/Return on equity.
3	Measurement	It measures firms ability to use fixed cost assets to magnify the operating profits.	It measures firms ability to use fixed cost funds to magnify the return to equity shareholder.
4	Relationship with balance sheet	It relates to the assets side of the balance sheet	It relates to the liabilities side of balance sheet
5	Effect on income	It affects the profits before interest and tax	It affects profit after interest i.e EBT/EPS
6	Risk	It involves operating risk of being unable to cover fixed operating cost i.e rent/depreciation.	It involves financial risk being unable to cover fixed financial cost i.e interest
7	Decision	It is concern with investment decisions	It is concern with financing decision
8	Stages	It is first stage of leverages	It is second stage of leverages

Q.1) Compute all leverages from the following Information:

	Rs.
Interest	10,000
Sales (1,000 units)	1,00,000
Variable cost	50,000
Fixed Cost	30,000

Q.2) Anna ltd. Has the following capital structure:

	Rs.
Equity share capital	5,00,000
10% Pref. share capital	5,00,000
8% Debentures	5,50,000

The present EBIT is Rs. 2,50,000. Tax rate is 50%.
Calculate financial leverage.

Q.3) The following information is available in respect of two firms, P and Q:

	P Ltd. **Rs.**	**Q. Ltd.** **Rs.**
Sales	500	1,000
Less: Variable Cost	200	300
Contribution	300	700
Fixed Cost	150	400
EBIT	150	300
Less: Interest	50	100
Profit before Tax	100	200

You are required to calculate different leverages for both the firms and also comment on their relative risk position.

Q.4) (i) Find out the Operating Leverage from the following data:

Sales Rs. 50,000

Variable	Cost 60%
Fixed Cost	Rs. 12,000

(ii) Find out the financial leverage from the following data:

Net Worth	Rs. 25,00,000
Debt / Equity	3:1
Interest rate	12%
Operating Profit	Rs. 20,00,000

Q.5)From the following information available for 4 firms, calculate the Earnings Before Interest and Tax (EBIT), Earning per Share (EPS), The Operating Leverage and the Financial Leverage:

	FIRMS:			
	P	**Q**	**R**	**S**
Sales (in units)	20,000	25,000	30,000	40,000
Selling Price P.U. (Rs.)	15	20	25	30
Variable Cost P.U. (Rs.)	10	15	20	25
Fixed Costs (Rs.)	30,000	40,000	50,000	60,000
Interest (Rs.)	15,000	25,000	35,000	40,000
Tax %	40	40	40	40
Number of Equity Shares	5,000	9,000	10,000	12,000

Q.6) Calculate the Operating Leverage, Financial Leverage & Combined Leverage from the following data under the Situations I and II and Financial Plans A and B:

Installed Capacity	4,000 units
Actual Production & Sales	75% of the Capacity
Selling Price	Rs. 30 per unit
Variable Cost	Rs. 15 per unit
Fixed Cost:	
Under Situation I	Rs. 15,000
Under Situation II	Rs. 20,000

Capital Structure:

Financial Plan	**A** **Rs.**	**B** **Rs.**
Equity	10,000	15,000
Debt (Rate of Interest at 20%)	10,000	5,000

	20,000	**20,000**

Q.7) Calculate the Operating Leverage and Financial Leverage under Situations A, B & C and Financial Plans I, II & III respectively from the following information relating to the operating and Capital Structure of Raja Ltd. Also find out the combination of operating and Financial Leverages, which give the highest value and the least value, how these calculations useful to finance manager:

Installed Capacity (no. of Units)			1200
Actual Production & Sales (no. of units)			800
Selling Price Per unit (Rs.)			15
Variable Cost Per unit (Rs.)			10
Fixed Cost:			
Situation A (Rs.)			1,000
Situation B (Rs.)			2,000
Situation C (Rs.)			3,000
Financial plans	**I**	**II**	**III**
Equity (Rs.)	5,000	7,500	2,500
12% Debt (Rs.)	5,000	2,500	7,500

Q.8) The Balance Sheet of Alpha Numeric Company is given below:

Liabilities	Rs.	Assets	Rs.
Equity Capital (Rs.10 Per share)	90,000	Net Fixed Assets	2,25,000
10% Long term Debt	1,20,000	Current Assets	75,000
Retained earnings	30,000		
Current Liabilities	60,000		
	3,00,000		**3,00,000**

The Companies Total Assets Turnover Ratio is 3, its Fixed Operating Cost is Rs. 1,50,000 and its Variable Operating Cost Ratio is 50% The Income tax rate is 50%.

You are required to calculate different types of Leverages for the Company.

Q.9) ATKT industries manufactures one product with Selling price is Rs. 20 per unit and the Variable cost is Rs. 10 p.u. The Plant has a Installed capacity of 2,000 units, but the utilization is only 50%. Fixed Cost Rs. 5,000.

Its Capital need is Rs. 20,000. It considers following debt equity ratio:

a. Debt 25% - Equity – 75%
b. Debt 50% - Equity – 50%
c. Debt 75% - Equity – 25%

The Cost of Debt is 10%. Face Value of Rs. 10. Tax rate 50%.

You are required to calculate all leverages (viz. Financial, Operating & Combined Leverages) and suggest capital structure.

Q.10) Compute the operating, financial and combined leverage on basis of the following information: (April, 2012)

Sales	1,00,000 units @ Rs. 2p.u.
Variable Cost	Rs. 0.70 p.u.
Fixed Cost	Rs. 1,00,000
Interest Charge	Rs. 3,668

Q.11) The selected data for A,B and C Companies for the year ended 31st March 2003 were as follows:

	A	**B**	**C**
Variable Cost as a Percentage of Sales	66 2/3	75	50
Interest Expenses (Rs.)	200	300	1,000
Degree of operating leverage	5	6	2
Degree of Financial Leverage	3	4	2
Income Tax Rate %	40	40	40

Prepare an Income Statement for each of the three companies.

Q.12) Prepare statement of profit & Loss.

Particulars	**A**	**B**	**C**
Variable cost as % of sales	75	60	50
Fixed Cost	2,000	4,000	3,000
Degree of Operating Leverage	3	2	3
Degree of Financial Leverage	2.5	3	2

Q.13) From the following particulars prepare Income statement of A& B. (Nov. 2011)

	A	**B**
Degree of Combined Leverage	6 times	15 times
Degree of Operating Leverage	3 times	5 times
Variable Cost as a % of Sales	40%	50%
Rate of Income tax	35%	35%
Number of Equity share	1,00,000	1,00,000
Earnings per share	Rs. 1.30	Rs. 0.65

Q.14) The following details for company A & B are given. You are required to compute the sales and then comment on the profitability of both the companies:

	A	**B**
Operating Leverage	4	4.5
Combined Leverage	8	11.25
9% Debentures	1,00,000	1,20,000
PV Ratio	20%	25%
Tax rate	50%	50%

Q.15) A firm has sales of Rs. 150 Lakhs, Variable cost Ts. 84 Lakhs and Fixed Cost of Rs. 12 Lakhs. It has a debt of Rs. 90 Lakhs @ 9% and Equity of Rs. 110 Lakhs.

a) What is the firms ROI?

b) Does it have a favorable financial leverage?

c) If the firm belongs to an industry, whose assets turnover is 2, does it have a high or low asset leverage?

d) What are the operating, financial & Combined leverage of the firm?

e) If the Sales drop to Rs. 125 Lakhs, what will be the New EBIT?

f) At what level the EBT of the firm will be equal to zero?