Paper 10- COST MANAGEMENT ACCOUNTING AND FINANCIAL MANAGEMENT

Paper 10- Cost and Management Accounting and Financial Management

Full Marks: 100 **Time allowed: 3 hours**

This paper is divided into two Sections A & B, each carrying 50 marks.
Further each Section has been divided into two Parts.

Section– A (Cost and Management Accounting)
PART - I

1. Answer the following questions:

(A) Choose the correct answer from the given four alternatives. **[1x6=6]**

(i) The use of management accounting is :
- **(a) compulsory**
- **(b) optional**
- **(c) mandatory as per the law**
- **(d) none of the above**

(ii) The selling price is ₹20 per unit , variable cost ₹ 16 , and fixed cost ₹16000, the breakeven point in unit will be :
- **(a) 800 units**
- **(b) 2000 units**
- **(c) 4000 units**
- **(d) None of the above**

(iii) Budget period depends upon
- **(a) Type of budget**
- **(b) The nature of budget**
- **(c) The length of trade cycle**
- **(d) All of the above**

(iv) Revision of budget is :
- **(a) Unnecessary**
- **(b) can't determine**
- **(c) necessary**
- **(d) Inadequate data.**

(v) Which of the following operating measures would to see decreasing over time?
- **(a) Merchandise inventory turnover**
- **(b) Total quality cost**
- **(c) Percentage of on-time deliveries**
- **(d) Finished goods inventory turnover**

(vi) Which of the following is incorrect :
- **(a) Learning curve may be applied to direct labour and material.**

(b) Learning curve is a cost reduction technique.

(c) Learning curve concept provides a means of evaluating the effectiveness of training program.

(d) Learning curve is a mathematical technique.

Answer:

i. (b)
ii. (c)
iii. (c)
iv. (c)
v. (b)
vi. (b)

(B) Match the following: **[4×1=4]**

	Column 'A'		Column 'B'
1.	**Budget is prepared for**	**A.**	**Profit / PV ratio**
2.	**Management accounting is a tool to**	**B.**	**Standard rate per hour × deficit hour worked**
3.	**Margin of safety**	**C.**	**Definite period**
4.	**Calendar variance**	**D.**	**Management**

Answer:

1. C
2. D
3. A
4. B

(C) Say True or False for the following question: **[4×1=4]**

(i) Management Accounting reports are public document.

(ii) Break even means the volume of production or sale where there is huge loss/profit.

(iii) Zero based budgeting cannot be used for decision making .

(iv) A flexible budget is prepared for more than one level of activity.

Answer :

(i) False
(ii) False
(iii) False
(iv) True

PART –II

Answer any three questions out of four questions

2. (a) A company wants to buy a new machine to replace one which is having frequent breakdown . It received offers for two models Z1 and Z2. Further details regarding these models are given below :

	Z1	Z2
Installed capacity (units)	**20,000**	**20,000**
Fixed overhead per annum (₹)	**2,40,000**	**1,00,000**
Estimated profit at the above capacity (₹)	**1,60,000**	**1,00,000**

The product manufactured using this type of machine (Z1 or Z2) is sold at ₹100 per unit .

You are required to determine :
(i) break- even level of sales for each model.
(ii) the level of sales at which both model will earn same profit .
(iii) the model suitable for different levels of demand for the product . [6]

(b) Pinnacle Engineering Company has received an once – off export order for its sole product that would require the use of half of the factory's total capacity, which is estimated at ₹ 4 lakhs units per annum . The condition of the export order is that it has to be accepted in full: acceptance of part quantity is not allowed.

The factory is currently operating at 60% level to meet the demand of its domestic customers. As against the current price of ₹ 6.00 per unit , the export offer is ₹ 4.70 per unit, which is less than the total cost of current production.

The cost breakdown is given below: (₹ per unit)

Direct material	**2.40**
Direct labour	**1.00**
Variable expenses	**0.60**
Fixed overhead	**1.00**
Total cost	**5.00**

The company has the following options :
(i) Accept the export order and cut back domestic sales as necessary .
(ii) Remove the capacity constraint by installing necessary balancing equipment and also by working overtime to meet both domestic and export demand . This will increase fixed overhead by ₹ 15,000 annually and additional cost for overtime work will amount to ₹ 40,000 for the year.
(iii) Appoint a subcontractor to manufacture the additional requirement and meet the domestic and export requirement in full by supplying raw materials, paying a conversion charge @ ₹ 2.00 per unit and appointing a supervisor at a salary of ₹ 3,000 per month for checking the quality of the product and controlling operations at the manufacturing unit.
(iv) Refuse the order.

Required:
(a) A statement of costs and profits under each of the above four options.
(b) Your recommendation, with reason, as to which of these options the company should decide upon. [6]

Answer:

(a)

Particulars	Z1 (₹)	Z2 (₹)
Estimated profit	1,60,000	1,00,000
+ fixed overhead	2,40,000	1,00,000
Estimated contribution	4,00,000	2,00,000
Installed capacity (no. of units)	20,000	20,000
Contribution p.u.	20	10
Selling price p.u.	100	100

$$\text{(i) BEP (units)} = \frac{\text{fixed cost}}{\text{contribution per unit}}$$

For Z1 = 6,000 units
For Z2 = 5,000 units

(ii) Cost BEP (units) = $\frac{2,40,000 - 1,00,000}{20 - 10}$ =14,000 units.

(iii)

No. of units	Model to be chosen
Less than 14,000	Z2
Equal to 14,000	Any of the two
More than 14,000	Z1

(b) Working notes :

Calculation of variable cost per unit

	₹
Direct material	2.40
Direct labour	1.00
Variable expenses	0.60
Variable cost per unit	4.00

Calculation of fixed cost (at 60% level)

= 4,00,000 units ×60/100×₹ 1per unit = ₹ 2,40,000

Option (i) Profitability statement (accept order and cut back domestic sales as necessary)

Sale		₹
Exports	(2,00,000 units × ₹4.70)	9,40,000
Domestic	(2,00,000 units × ₹6.00)	12,00,000
		21,40,000
Less : variable cost	(4,00,000units × ₹4.00)	(16,00,000)
Contribution		5,40,000
Less: fixed overhead		(2,40,000)
Profit		3,00,000

Option (ii) Profitability statement (installation of balancing equipment and increase capacity to meet both domestic and export demand)

Sales			₹
Export	(2,00,000 units × ₹ 4.70)		9,40,000
Domestic	(2,40,000 units × ₹ 6.00)		14,40,000
			23,80,000
Less: variable cost	(4,40,000 units × ₹4)	17,60,000	
Overtime payment		40,000	18,00,000
Contribution			5,80,000
Less: fixed overhead		2,40,000	
Extra fixed costs		15,000	2,55,000
Profit			3,25,000

Option (iii) Profitability statement (subcontracting)

Sales (in option b)			23,80,000
Less: variable cost	(4,00,000units × ₹4)	16,00,000	
Sub contract charges :			
Material	(₹2.4 × 40,000units)	96,000	
Conversion	(₹2 × 40,000 units)	80,000	(17,76,000)
Contribution			6,04,000
Less: fixed overheads		2,40,000	
Supervision charges		36,000	(2,76,000)
Profit			3,28,000

Option (iv) Profitability statement (refuse export order)

Sales : domestic	(2,40,000 × ₹6)	14,40,000
Less: variable cost	(2,40,000× ₹4)	(9,60,000)
Contribution		4,80,000
Less: fixed cost		(2,40,000)
Profit		2,40,000

Analysis – from the analysis of the above , it is observed that the profit is maximum in option (c) so it is recommended to appoint a subcontractor to manufacture the additional requirement and meet both the domestic as well as export order.

3.(a) Malti ltd. has furnished you the following data :

	Budget	**Actual**
		July 2018
No of working days	**25**	**27**
Production in units	**20,000**	**22,000**
Fixed overhead	**30,000**	**31,000**

Budgeted fixed overhead rate is ₹1 per hour. In July 2018 the actual hour worked were 31,500 hours.

Calculate the following variances :

1. **Fixed overhead efficiency variance**
2. **Fixed overhead capacity variance**
3. **Fixed overhead calendar variance**
4. **Fixed overhead volume variance**
5. **Fixed overhead expenditure variance**
6. **Total OH** **[6]**

(b) SHALL Ltd. presents the following information for September, 2018:

Budgeted production of product PQ = 200 UNITS.

Standard consumption of Raw Material= 2 kg per unit of PQ.

Standard price of material= ₹ 6 per kg.

Actually 250 units of PQ were produced and material A was purchased at ₹8 per kg and consumed at 1.8 kg per unit of PQ. Calculate the material cost variances. **[6]**

Answer:

(a) Computation of required values

SRSH (1)₹	SRAH (2) ₹	SRRBH (3) ₹	SRBH (4) ₹	ARAH (5) ₹
1×33,000	1× 31,500	1× 32,400		
33,000	31,500	32,400	30,000	31,000

RBH = 30,000× $\frac{27}{25}$ = 32,400 hours

Standard time per unit = $\frac{30,000}{20,000}$ = 1.5 hours

Standard hour for actual output = 22,000 × 1.5 = 33,000

Using unit rate

SRAQ (1) ₹	SRSQ (2) ₹	SRRBQ (3) ₹	SRBQ (4) ₹	ARAQ (5) ₹
1.5 × 22,000	1.5×21,000	1.5 × 21,600	1.5 × 20,000	
33,000	31,500	32,400	30,000	31,000

$$SR = \frac{BFHO'S}{Budegted\ quantity} = \frac{30,000}{20,000} = 1.5 \text{ hours}$$

$$RBQ = 20,000 \times \frac{27}{25} = 21,600$$

$$\text{Units in one hour} = \frac{20,000}{30,000} \text{ units}$$

$$SQ = 31,500 \times \frac{2}{3} = 21,000$$

(1) SRSH / SRAQ Standard Cost of Standard FOH's = ₹ 33,000
(2) SRAH / SRSQ – Standard Cost of Actual FOH's = ₹ 31,500
(3) SRRBH/ SRRBQ – Revised Budgeted FOH's = ₹ 32,400
(4) SRBH / SRBQ – Standard Fixed overheads = ₹ 30,000
(5) ARAH/ARAQ – Actual Fixed overheads = ₹ 31,000

a. FOH efficiency Variance = (1) – (2) = 1,500 (F)
b. FOH Capacity Variance = (2) – (3) = 900 (A)
c. FOH Calendar Variance = (3) – (4) = 2,400 (F)
d. FOH Volume Variance = (1) – (4) = 3,000 (F)
e. FOH Budget or expensive Variance = (4) – (5) = 1,000 (A)
f. FOH Cost Variance = (1) – (5) = 2,000 (F)

(b) Actual:

Actual production of P from material A = 250 units
For one unit actual production of P 1.8 kg of material A is required.
Hence, for 250 units of P = 250×1.8=450 kg of material A is required.
Actual cost of output of P for 250 units=250×1.8×8= ₹ 3,600.

Standard:

Standard Again, standard consumption of raw material A for one unit of P is 2kg.
So, as per standard rate for production of 250 units of P = 250×2=500 kg of raw material A is required.
Hence, standard cost of production of 250 kg of P = 250×2×6=₹ 3,000.
Material Cost Variance= Standard Cost-Actual Cost=3000-3600=600(A)
Material Price Variance= (SP-AP) SQ=(6-8)450=900
Material Yield Variance = (SP×SQ)-(SP×SM) = (6×500)-(6×450)=300 (F)
Material Usage Variance = (SP×SQ)-(SP×AQ)=(6×500)-(6×450)=300 (F)

4.(a) Production costs of A Ltd. are as follows :

	Level of activity		
	60%	**70%**	**80%**
Output (in units)	**1,200**	**1,400**	**1,600**
Costs (in ₹)			
Direct materials	**24,000**	**28,000**	**32,000**
Direct labour	**7,200**	**8,400**	**9,600**
Factory overhead	**12,800**	**13,600**	**14,400**
Work cost	**44,000**	**50,000**	**56,000**

A proposal to increase production to 90% level of activity is under the consideration of management. The proposal is not expected to involve any increase in fixed factory overheads.

Prepare a statement of cost at 90% level of activity. [6]

(b) XYZ ltd. which is a system of assessment of Divisional Performance on the basis of residual income has two divisions, Alfa and Beta. Alfa has annual capacity to manufacture 15,00,000 numbers of a special component that it sells to outside customers, but has idle capacity .The budgeted residual income of beta is ₹1,20,00,000 while that of Alfa is ₹1,00,00,000. Other relevant details extracted from the budget of Alfa for the current years were as follows:

Particular	
Sale (outside customer)	**12,00,000 units @ ₹ 180 per unit**
Variables cost per unit	**₹160**
Divisional fixed cost	**₹80,00,000**
Capital employed	**₹7,50,00,000**
Cost of capital	**12%**

Beta has just received a special order for which it requires components similar to the ones made by Alfa. Fully aware of the idle capacity of Alfa, beta has asked Alfa to quote for manufacture and supply of 3,00,000 numbers of the components with a slight modification during final processing. Alfa and Beta agree that this will involve an extra variable cost of ₹ 5 per unit.

You are required to calculate, the transfer price which Alfa should quote to Beta to achieve its budgeted residual income. [6]

Answer:

(a) Statement of cost per unit at different levels

Level of activity	60 %	70 %	80 %
Output (in units)	1,200	1,400	1,600
Cost per unit :	₹	₹	₹
Direct material	20.00	20.00	20.00
Direct labour	6.00	6.00	6.00
Factory overhead	10.67	9.71	9.00

A study of unit cost at different levels shows direct material and direct labour to be constant per unit and they are , therefore , variable costs. Factory overheads vary per unit and are , therefore , part variable and part fixed .

Calculation of variable overheads per unit

Level of activity	Production	Overhead
80%	1,600 units	14,400
70%	1,400 units	13,600
Difference	200 units	₹800

The difference in overhead represents variable overhead; hence , variable overheads of 200 units are ₹800 .

Variable overhead per unit = $\frac{800}{200}$ = ₹4

Fixed factory overhead = total factory overhead less variable factory overhead
= ₹14,400 – 1600×₹ 4
= ₹ 8,000

(b)

i.)Contribution required at budgeted residual income

Particulars	₹
Fixed cost	80,00,000
Profit on 7,50,00,000 ×12%	90,00,000
Residual income	1,00,00,000
Total contribution required	2,70,00,000

Contribution derived from existing units =12,00,000 × 20 = ₹ 2,40,00,000
Contribution required on 3,00,000 units = 2,70,00,000 – 2,40,00,000 = ₹ 30,00,000
Contribution per unit = 30,00,000 / 3,00,000 = ₹ 10
Increase in variable cost = ₹ 5

∴ Transfer price = variable cost + desired residual income + increase in vc
= 160 + 10 + 5
= ₹175

(ii) If beta can buy from outside at less than variable cost of manufacture, i.e. ₹ 165, then only the decision to transfer price of ₹ 175, will be sub- optimal for the group as a whole.

5. Short notes (any three questions out of four questions) [3×4=12]

(a) 'Control' as a function of management accounting .

(b) Zero-based budgeting (ZBB)

(c) Factors affecting Learning Curve

(d) Limitations of Uniform Costing

Answer:

(a) 'Control' as a function of management accounting:

A management function aimed at achieving defined goals within an established timetable, and usually understood to have three components: (1) setting standards, (2) measuring actual performance, and (3) taking corrective action.

A typical process for management control includes the following steps: (1) actual performance is compared with planned performance, (2) the difference between the two is measured, (3) causes contributing to the difference are identified, and (4) corrective action is taken to eliminate or minimize the difference.

It is absolutely essential that there should be a system of monitoring the performance of all divisions and departments so that deviations from the desired path are brought to light, without delay and are corrected then and there. This process is termed as control. The aim of this function control is to facilitate accomplishment of the goals in an efficient manner. For the discharge of this important function, management accounting provides meaningful information in a systematic and effective manner. However, the role of accountant is misunderstood. Many consider the accountant as a controller of their performance. Many accountants themselves misunderstand their own role as controllers. The real role of control is effective communication and assists the managers in achieving their goals, as efficiently as possible..

(b) Zero-based budgeting (ZBB):

Zero-based budgeting was devised as a reaction to the traditional incremental approach to budgeting. Zero-based budgeting requires a completely clean sheet of paper every year. Each part of the organisation has to justify over again the budget it requires. The approach is particularly useful for the output-driven approach to budgeting because it forces questions to be asked about the programmes planned and the cost–benefit aspects of the plans. Some advantages and disadvantages of this type of budgeting are being discussed here.

The advantages of zero-based budgeting are:

1.) It encourages management to focus on the goals and objectives of the organisation. It forces management to consider whether activities continue to be necessary.
2.) It leaves space for new initiatives.

The disadvantages of zero-based budgeting are:

1.) It is a time-consuming exercise.
2.) It requires management to apply higher skills in planning.

(c) Factors affecting Learning Curve:

The factors affecting Learning Curve are as follows:

a) Method of Production i.e. whether the production is labour oriented or capital oriented. It changes the slop of learning curve.

b) Labour Turnover Rate – a high labour turnover rate requires the management to train the new workers frequently and hence the company never achieves the maximum efficiency potential.

c) Changes in product design, production system etc. which requires the learning curve to start afresh.

d) Labour Strike, shut down, lock outs also affect learning curve as they interrupt the learning process.

(d) Limitations of Uniform Costing :

a. The various member-units in an industry differ widely with regard to location, age, condition of plant and degree of mechanism. This difference is sometimes so wide that it does not permit efficient use of uniform costing system.

b. For smaller units, this system becomes too expensive to operate. The cost incurred in operation of this system may not commensurate with the benefits derived.

c. Uniform costing system may promote a monopolistic tendency. Thus, it may prove harmful to the consumers.

d. The standard terminology used in the uniform costing system may not be understood properly by the member companies. However, this objective can be overcome by introduction of uniform Costing Manual.

Section – B (Financial Management)
PART-I

6. Answer the following questions:

(A) Choose the correct answer from the given four alternatives. [1x6=6]

(i) Investment decision is concerned with :
- **(a) Selection of asset in which funds will be invested by a firm**
- **(b) Capital- mix or capital structure of a firm**
- **(c) Distribution of profits of a firm to the shareholders**
- **(d) None of the above.**

(ii) Which of the following is not a source of short term finance -
- **(a) Commercial paper**
- **(b) Certificate of deposit**
- **(c) Factoring**
- **(d) Euro Debt Issue.**

(iii) Which of the following is not a characteristics of GDR :
- **(a) Freely traded in the international market**
- **(b) Investors earn fixed income by way of dividend**
- **(c) Shares underlying the GDR carry voting rights.**
- **(d) GDR is a negotiable instrument.**

(iv) _____ ratio is the indicator of the firm's commitment to meet its short term liabilities.
- **(a) Super quick ratio**
- **(b) Current ratio**
- **(c) Proprietary ratio**
- **(d) Quick ratio**

(v) SPO refers to _____, the second and subsequent time a company raises money from the public directly.
- **(a) Second Public Offering**
- **(b) Subsequent Public Offering**
- **(c) Subsequent Public Offer**
- **(d) Seasonal Public Offering**

(vi) Preference shares must be redeemed within a period of _____ from the date of issue.
- **(a) 10 yrs**
- **(b) 20 yrs**
- **(c) 30yrs**
- **(d) 50 yrs**

Answer:

(i) (a)
(ii) (d)
(iii) (c)
(iv) (b)
(v) (d)
(vi) (b)

(B) Match the statement in Column I with the most appropriate statement in column II: [1x4=4]

	Column I		Column II
1	ECB	A	Short term lease
2	Operating lease	B	External Commercial Borrowings
3	Stochastic Model	C	Dividend per equity share/ earning per equity share
4	Pay -out ratio	D	Upper control limit and lower control limit.

Answer:

1. B
2. A
3. D
4. C

(C) State whether the following statements are True or False . [1x4=4]

(i) Operating leverage reflects the impact of change in sales on the level of operating profits of the firm.

(ii) Ratio analysis helps to measure the liquidity position.
(iii) The motive behind holding a cash is to meet the business exigencies and to do the regular business transaction
(iv) A deposit made by one company to another company normally for a period upto 4 months is referred to as inter corporate deposit.

Answer:
(i) True
(ii) True
(iii) True
(iv) False

PART-II

Answer any three Question from Q. No. 7, 8, 9 and 10. Each question carries 12 marks.

7.(a) A company has a profit margin of 25% and asset turnover of 3 times. What is the company's return on investment? How will this return on investment vary if?
(i) Profit margin is increased by 5%?
(ii) Asset turnover is decreased to 2 times?
(iii) Profit margin is decreased by 5% and asset turnover is increased to 4 times? **[6]**

(b) The following are the summary of cash transactions extracted from the books of Samik ltd. **(₹ '000)**

Balance as on 1st July , 2017	**70**
Receipts from customer	**5,566**
Issue of shares	**610**
Sale of fixed assets	**262**
	6,508
Payments to suppliers	**4,094**
Payments for fixed assets	**466**
Payments for overhead	**230**
Wages and salaries	**138**
Taxation	**486**
Dividend	**170**
Repayment of bank loans	**500**
	6084
Balance as on 30th June , 2018	**424**

You are required to prepare a Cash flow Statement of the company for the period ended 30th JUNE 2018 in accordance with Accounting standard -3(revised) . **[6]**

Answer:

(a) Net profit ratio = 25% (given)
Asset turnover ratio = 3 times (given)
Return on investment = net profit ratio × asset turnover ratio
= 25 ×3
= 75%

(i) If net profit ratio is increased by 5%
Then revised net profit ratio = 25 + 5= 30 %
Asset turnover ratio (as before) =3 times
ROI = 30 ×3 times = 90 %

(ii) If assets turnover ratio is decreased to 2 times :

N P ratio (as before) = 25%
Revised asset turnover ratio = 2 times
ROI = 25 % × 2 times = 50 %

(iii) If net profit ratio falls by 5% and assets turnover ratio raises to 4 times :
Then revised NP Ratio 25-5 = 20%
Revised asset turnover ratio = 4 times
ROI = 20 % × 4 = 80%

(b) Cash flow statement of Samik ltd. for the period ending 30th June ,2018 (₹'000)

Cash flow from operating activities		
Receipts from customer		5,566
Payment to suppliers		(4,094)
Payment of wages and salaries		(138)
Payment of overhead		(230)
Payment of taxes		(486)
Net cash flow from operating activities	(a)	618
Cash flow from investing activities		
Proceeds on sale of fixed assets		262
Acquisition of fixed assets		(466)
Net cash outflow in investing activities	(b)	(204)
Cash flow from financing activities		
Proceeds on issue of shares		610
Payment of dividends		(170)
Repayments of bank loans		(500)
Net cash outflow in financing activities	(c)	(60)
Net increase in cash and cash equivalents during the period	(a+b+c)	354
Cash and cash equivalents at the beginning		70
Cash and cash equivalent at the end		424

8.(a) Swam ltd. currently has sales of ₹33,00,000 with an average period of 2 months .At present no discounts are offered to the customers . The management of the company is thinking to allow a discount of 2% on cash sales which results in :
(a) the average collection period would reduce to one month.
(b) 50% of customer would take advantage of 2% discount.
(c) the company normally requires a 25% return on its investment .
Advise the management whether to extend discount on cash sales or not . [4]

(b) The following financial data have been furnished by SIMPLE LTD. and DIMPLE LTD. for the year ended 31-3-2018.

Particulars	**SIMPLE LTD.**	**DIMPLE LTD.**
Operating leverage	**2:1**	**4:1**
Financial leverage	**3:1**	**3:1**
Interest charge per annum	**₹12 lakhs**	**₹10 lakhs**
Corporate tax rate	**40%**	**40%**
Variable cost as % of sales	**60%**	**50%**

Prepare income statement of the two companies. [8]

Answer:

(a) ₹

Current debtors	33,00,000 × 2/12	5,50,000
Revised debtors	33,00,000× 1/12	2,75,000
Reduction of investment in debtors balance		2,75,000

Discount to be offered = 33,00,000 × 50/100 ×2/100 = ₹ 33,000
Increase in profit due to decrease in debtors = 2,75,000 × 25/100 = ₹ 68,750
Net increase in profit = 68,750 - 33,000 = ₹ 35,750

Analysis : it is suggested to offer the 2% discount on cash sales , which will result in increase in profit by ₹ 35,750.

$$\text{Cost of cash discount} = \frac{2}{100-2}\times\frac{365}{60-0}\times 100 = \frac{2}{98}\times\frac{365}{60}\times 100 = 12.4\%$$

∴ Since cost of discount 12.4% is less than the rate of investment 25% , it is suggested to extend the discount terms for cash sales .

(b) SIMPLE LTD.

Calculation of EBIT

Financial leverage (given) = 3

$$\frac{\text{EBIT}}{\text{EBIT}-\text{Interest}} = 3$$

$$\frac{\text{EBIT}}{\text{EBIT}-12} = 3$$

∴ EBIT = ₹ 18 Lakhs

Operating leverage (given) = 2

$$\frac{\text{Contribution}}{\text{EBIT}} = 2$$

$$\frac{\text{Contribution}}{18} = 2$$

Contribution = 18×2
= ₹ 36 lakhs

Calculation fixed cost

Operating leverage (given) = 2

$$\frac{\text{Contribution}}{\text{Contribution}-\text{FC}} = 2$$

$$\frac{36}{36-\text{FC}} = 2$$

∴ FC = ₹ 18 Lakhs

Calculation of sales

$$\frac{\text{Contribution}}{\text{Sales}} = 40\ \%$$

∴ Sales = 36 × 100/ 40
= ₹ 90 lakhs

DIMPLE LTD.

Calculation of EBIT

Financial leverage (given) = 3

$$\frac{\text{EBIT}}{\text{EBIT}-\text{Interest}} = 3$$

$$\frac{EBIT}{EBIT-10} = 3$$

$\therefore$ EBIT = ₹ 15 Lakhs

Operating leverage (given) = 4

$$\frac{Contribution}{EBIT} = 4$$

$$\frac{Contribution}{15} = 4$$

Contribution = 15×4
= ₹ 60 lakhs

Calculation fixed cost

Operating leverage (given) = 4

$$\frac{Contribution}{Contribution-FC} = 4$$

$$\frac{60}{60-FC} = 4$$

$\therefore$ FC = ₹ 45 Lakhs

Calculation of sales

$$\frac{Contribution}{Sales} = 50\ \%$$

$\therefore$ Sales = 60 × 100/ 50
= ₹ 120 lakhs

Particulars		SIMPLE LTD.	DIMPLE LTD.
Operating leverage	(Contribution / EBIT)	2	4
Financial leverage	(EBIT/EBT)	3	3
Combined leverage	(Contribution /EBT)	6	12
P.V.Ratio	(Contribution / sales)	40%	50%

Income statement of SIMPLE LTD. (₹ in lakhs)		Income statement of DIMPLE LTD. (₹ in lakhs)	
Sales	90	Sales	120
Variable cost (60%)	54	Variable cost (50%)	60
Contribution	36	Contribution	60
Less: fixed cost	18	Less: fixed cost	45
EBIT	18	EBIT	15
Less: interest	12	Less: interest	10
EBT	6	EBT	5
Tax @ 40%	2.4	Tax @ 40%	2
EAT	3.6	EAT	3

9.(a) PQR is proposing to sell a 6 –year bond of ₹ 6,000 at 5% rate of interest per annum . The bond amount will be amortised equally over its life. What is the bond's present value for an

investor if he expects a minimum rate of return of 10%? [4]

(b) PESICO ltd. have decided to purchases a machine to augment the company's installed capacity to meet the growing demand for its products. There are three machines under consideration of the management. The relevant details including estimated yearly expenditure and sales are given below : all sales are on cash basis . corporate income – tax rate is 40 % . Interest on capital may be assumed to be 10%.

Particulars	Machine1 (₹)	Machine 2 (₹)
Initial investment required	4,00,000	2,00,000
Estimated annual sales	6,00,000	4,00,000
Cost of production (estimated):		
Direct materials	50,000	50,000
Direct labour	40,000	40,000
Factory overheads	60,000	40,000
Administration costs	20,000	10,000
Selling and distribution costs	10,000	10,000

The economic life of machine 1 is 2 years , while it is 3 years for the second machine. The scrap values are ₹ 40,000 and ₹25,000 respectively. You are required to find out the most profitable investment based on 'Payback Method'. [8]

Answer :

(a) The amount of interest will go on declining as the outstanding amount of bond will be reducing due to amortization . The amount of interest for six years will be :

First year : 6000 × 5% = ₹300
Second year : 6000 – 1000 ×5% = ₹250
Third year : 5000 – 1000 ×5% = ₹ 200
Fourth year : 4000 – 1000 ×5% = ₹150
Fifth year : 3000 – 1000 ×5% = ₹100
Sixth year : 2000 – 1000 ×5% = ₹ 50

The outstanding amount of bond will be zero at the end of sixth year.
Since PQR will have to return ₹ 1000 every year , the outflows every year will consists of interest payment and repayment of principal :

First year = 1000 + 300 = ₹ 1300
Second year = 1000 + 250= ₹1250
Third year = 1000 + 200= ₹1200
Fourth year = 1000 + 150= ₹1150
Fifth year = 1000 + 100= ₹1100
Sixth year = 1000 + 50= ₹1050

The above cashflows of six years will be discounted with cost of capital . Here the expected rate i.e. 10 % will be used .

Value of the bond is calculated as follows :

$$Vb = \frac{1300}{(1.1)^1} + \frac{1250}{(1.1)^2} + \frac{1200}{(1.1)^3} + \frac{1150}{(1.1)^4} + \frac{1100}{(1.1)^5} + \frac{1050}{(1.1)^6}$$

= ₹ 5180.830

(b) Calculation of payback period of machines

		Machine 1	Machine 2
Initial investment	(i)	4,00,000	2,00,000
Sales	(a)	6,00,000	4,00,000

Costs :			
Direct material		50,000	50,000
Direct labour		40,000	40,000
Factory overhead		60,000	40,000
Depreciation		1,80,000	58,333
Administrative cost		20,000	10,000
Selling and distribution cost		10,000	10,000
Interest on capital		40,000	20,000
Total cost	(b)	4,00,000	2,28,333
Profit before tax	(a)-(b)	2,00,000	1,71,667
Less: tax @ 40%		80,000	68,667
Profit after tax		1,20,000	1,03,000
Add: depreciation		1,80,000	58,333
Net cash flow	(ii)	3,00,000	1,61,333
Payback period (years)	(i)/(ii)	1.333	1.2397

Analysis : Machine 2 having low pay period , hence it is preferred to the another machine.

10. Write short notes on any three out of four questions : [3×4=12]

(a) Global Depository Receipt (GDR)
(b) Importance of Cash Management
(c) Significance of funds flow statement
(d) Factoring

Answer:

(a) Global Depository Receipt (GDR)

A GDR is a negotiable instrument, basically a bearer instrument which is traded freely in the international market either through the stock exchange or over the counter or among Qualified International Buyers (QIB). It is denominated in US Dollars and represents shares issued in the local currency.

Characteristics

1. The shares underlying the GDR do not carry voting rights.
2. The instruments are freely traded in the international market.
3. The investors earn fixed income by way of dividend.
4. GDRS can be converted into underlying shares, depository/custodian banks reducing the issue.

(b) Some of the importance of Cash Management is:

(i) Cash Management ensures that the firm has sufficient cash during peak times for purchase and for other purposes.
(ii) Cash Management help to meet obligatory cash out flows that are all due.
(iii) Cash Management assists in planning capital expenditure projects.
(iv) Cash Management helps to arrange for outside financing at favorable terms and conditions, if necessary.
(v) Cash Management helps to allow the firm to take advantage of discount, special purchases and business opportunities.
(vi) Cash Management helps to invest surplus cash for short or long term periods to keep the idle funds fully employed.

(c) Significance of funds flow statement

It is very useful tool in the Financial Managers analytical kit. It provides a summary of management decisions on financing activities of the firm and investment policy.

The following are the advantages of Funds Flow Statement.
(i) Analysis of financial operations: The Funds Flow Statement reveals the net affect of various transactions on the operational and financial position of the business concern. It determines the financial consequences of business operations. This statement discloses the causes for changes in the assets and liabilities between two different points of time. It highlights the effect of these changes on the liquidity position of the company.
(ii) Financial policies: Funds Flow Statement guides the management in formulating the financial policies such as dividend, reserve etc.
(iii) Control device: It serves as a measure of control to the management. If actual figures are compared with budgeted projected figures, management can take remedial action if there are my deviations.
(iv) Evaluation of firm's financing: Funds Flow Statement helps in evaluating the firm's financing. It shows how the funds were obtained from various sources and used in the past. Based on this, the financial manager can take corrective action.

(d) Factoring:

Factoring, as a fund based financial service, provides resources to finance receivables as well as facilities the collection of receivables. It is another method of raising short-term finance through account receivable credit offered by commercial banks and factors. A commercial bank may provide finance by discounting the bills or invoices of its customers. Thus, a firm gets immediate payment for sales made on credit. A factor is a financial institution which offers services relating to management and financing of debts arising out of credit sales. Factoring is becoming popular all over the world on account of various services offered by the institutions engaged in it. Factors render services varying from bill discounting facilities offered by commercial banks to a total take-over of administration of credit sales including maintenance of sales ledger, collection of accounts receivables, credit control and protection from bad debts, provision of finance and rendering of advisory services to their clients. Factoring, may be on a recourse basis, where the risk of bad debts is borne by the client, or on a non-recourse basis, where the risk of credit is borne by the factor.