Paper 10- COST & MANAGEMENT ACCOUNTING AND FINANCIAL MANAGEMENT

Paper 10 - Cost & Management Accounting and Financial Management

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

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) Despite the development of Management Accounting as an effective discipline to improve the managerial performance, it has some limitations. Which of the following is a limitation of management accounting?
(a) Psychological Resistance
(b) Physiological Resistance
(c) Both of the above
(d) None of the above.

(ii) The following is the limitation of management accounting –
(a) Costly Affair
(b) Evolutionary Stage
(c) Psychological Resistance
(d) All of the above

(iii) Which of the following costs incurred by a commercial airline can be classified as variable?
(a) Interest costs on leasing of aircraft
(b) Pilots' salaries
(c) Depreciation of aircraft
(d) None of these three costs can be classified as variable

(iv) Factors to be considered in Production Budget:
(a) Production plan
(b) The capacity of the business concern
(c) Inventory Policy
(d) All of the above

(v) Which of the following factors does not affect Learning Curve
(a) Method of production
(b) Labour strike
(c) Shut down
(d) Efficiency rate

(vi) Standard Price per kg of Material ₹ 2, Actual Material used 2,000 kg, Actual cost of Material ₹ 3,000. Actual output 2,100 kg. Compute Material Price Variance.

(a) ₹1050 (Favourable)
(b) ₹1142 (Favourable)
(c) ₹1000 (Favourable)
(d) None of the above

Answer:

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

(B) Match the following: **[4×1=4]**

	Column 'A'		Column 'B'
1.	**Absorption costing**	**A.**	**Rigid /inflexible budget.**
2.	**Differential cost is adopted**	**B.**	**Decision making**
3.	**Fixed budget**	**C.**	**Cost per unit reduces, as the production increases.**
4.	**Zero based budgeting**	**D.**	**Marginal Costing**

Answer:

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

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

(i) Management Accounting is a traditional approach to accounting.
(ii) In marginal costing, managerial decisions are guided by profit.
(iii) Responsibility Accounting is also called Profitability Accounting & Acitivity Accounting.
(iv) Standard costing system established yardstick against which the efficiency of actual performance is measured.

Answer :

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

PART - II

Answer any three questions out of four questions **[12x3=36]**

2.(a) A Co. has annual fixed costs of ₹ 1,40,000. In 2015 sales amounted to ₹6,00,000, as compared with ₹ 4,50,000 in 2014, and profit in 2015 was ₹ 42,000 higher than that in 2014.
(i) At what level of sales does the company break-even?

(ii) Determine profit or loss on a forecast sales volume of ₹ 8,00,000

(iii) If there is a reduction in selling price by 10% in 2016 and the company desires to earn the same amount of profit as in 2015, what would be the required sales volume? [4]

(b) Seagreen Company Ltd., a retail dealer in garments is currently selling 24,000 T-shirts annually. It supplies the following details for the year ended 31st march:

Variable cost per T-shirt	**₹500**
Selling cost per T-shirt	**₹800**
Fixed cost :	
Advertising cost for the year	**₹16,00,000**
General office costs for the year	**₹8,00,000**
Staff salaries for the year	**₹24,00,000**

As a Cost Accountant of the firm you are required to answer the following each part independently :

i. **Calculate the break-even point and margin of safety in sales revenue and number of T-shirt sold.**
ii. **Assume that 20,000 T-shirts were sold in a year. Find out the net profit of the firm**
iii. **If it is decided to introduce selling commission of ₹ 60 per T-shirt, how many T- shirt would require to be sold in a year to earn a net income of ₹3,00,000.**
iv. **Assuming that for the year 2019 an additional staff salary of ₹6,60,000 is anticipated and price of a T-shirt is likely to be increased by 15%, what should be the break-even point in number of T-shirts and sales revenue? [8]**

Answer:

(a) P/V ratio = (Change in profit / Change in sales) x 100
= (42,000 / 1,50,000) x 100

= 28%

(i) Break even sales = Fixed cost / PV ratio

= 1,40,000 / 28%

= ₹ 5,00,000

(ii) Profit = (8,00,000 x 0.28) – 1,40,000

= 2,24,000 – 1,40,000

= ₹ 84,000

(iii) Profit in 2015 being desired profit = (6,00,000 x 0.28) – 1,40,000

= 1,68,000 – 1,40,000

= ₹ 28,000

Assuming same quantity of sales as in 2015 is also made in 2016, then sales would be ₹ 6,00,000 x 90/100 = ₹ 5,40,000

Consequently contribution is ₹ 1,08,000 (1,68,000 – 60,000)

New P/V ratio = (1,08,000 / 5,40,000) x 100 = 20%

Required sales to get the same profit as in 2012 = (1,40,000 + 28,000) / 20% = 8,40,000

(b) (i) Breakeven point (in units) = fixed cost ÷ contribution per unit

= ₹ 48,00,000 ÷ ₹ 300
= 16,000 T- shirts

Breakeven sales = 16,000 ×₹800
= ₹ 1,28,00,000

Total sales = 24,000 × ₹800 = ₹ 1,92,00,000
Margin of safety = Sales –BEP sales = ₹ 1,92,00,000 - ₹ 1,28,00,000 = ₹ 64,00,000
Margin of Safety(in units) = ₹ 64,00,000 ÷₹800 = 8,000 T- shirts.

(ii) Contribution per unit = ₹ 800 - ₹ 500 = ₹ 300
No. of T-shirts sold = 20,000 T-shirts

Total contribution = 20,000 × ₹300 = ₹ 60,00,000
Less: Fixed Cost = ₹ 48,00,000
Net profit = ₹ 12,00,000

(iii) Sales commission of ₹ 60 per T-shirt is available cost and , therefore , revised variable cost will be ₹ 560 per T- shirt .
Contribution per unit = ₹ (800-560) = ₹ 240
Fixed cost = ₹ 48,00,000
Desired profit = ₹ 3,00,000
Total contribution = ₹ 51,00,000
Required sales in units = Total contribution ÷ contribution per unit
= ₹ 51,00,000 ÷ ₹ 240
= 21,250 T-shirts.

(iv) Revised Fixed Costs = 48,00,000 + 6,60,000 = ₹ 54,60,000
Revised selling price = (₹ 800 + 15% of ₹ 800)= ₹920
Revised contribution = (920- 500) = ₹ 420 per T- shirt.
B.E. point = ₹54,60,000 ÷ ₹ 420 = ₹ 13,000 t- shirts
B.E. sales value = 13,000 × ₹920 = ₹ 1,19,60,000

3.(a) The standard set for material consumption was 200 kg@ ₹4.50 per kg.
In a cost period: Opening stock was 200 kg @ ₹5.00 per kg.
Purchase made 500 kg @ ₹ 4.30 per kg. Consumption 220 kg.

Calculate: (i) Usage (ii) price variance
1.) When variance is calculated at a point of purchase.
2.) When variance is calculated at a point of issue on FIFO basis
3.) When variance is calculated at a point of issue on LIFO basis. [6]

(b) A company manufacturing a special type of fencing tile 12"X 8" X 1\2" used a system of standard costing. The standard mix of the compound used for making the tiles is:
2,400 kg of Material A @ ₹ 0.30 per kg.
1,000 kg of Material B @ ₹ 0.60 per kg.
1,600 kg of Material C @ ₹ 0.70 per kg.
The compound should produce 12,000 square feet of tiles of 1/2" thickness. During a period in which 1, 00,000 tiles of the standard size were produced, the material usage was:

Kg		₹
14,000	Material A @ 0.32 per kg	4,480
6,000	Material B @ 0.65 per kg	3,900
10,000	Material C @ 0.75 per kg	7,500
30,000		15,880

Present the cost figures for the period showing Material Price, Mixture, Sub-usage Variance. [6]

Answer:

(a) (i) Computation of Material Usage Variance

Material Usage Variance= SQSP-AQSP =SP(SQ-AQ) =4.50(200-220) =90(A).

(ii) Computation of Material Price Variance

1.) When variance is calculated at point of purchase

Price Variance

= AQSP-AQAP

=(220×4.5)-(220×4.30)

=990-946

=44(F)

2.) When variance is calculated at a point of issue on FIFO basis Price Variance

= AQSP-AQAP

=(220×4.50)-[(200×5.00)+(20×4.30)]

=990-(1000+86)

=990-1086

=96(A)

3.) When variance is calculated at a point of issue on LIFO basis Price Variance

= AQSP-AQAP

=(220×4.50)-(220×4.30)

=990-946

=44 (F)

(b) Area of tile =12 x 8/12 x 12=2/3 sq. ft.

No of tiles that can be laid in 12,000 sq. ft. is 12,000 / (2/3) = 18,000 tiles.

	Standard Data			Actual Data		
	Q(₹)	P(₹)	V(₹)	Q(₹)	P(₹)	V(₹)
A	13,333.33	0.3	4,000	14,000	0.32	4,480
B	5,555.55	0.6	3,333.33	6,000	0.65	3,900
C	8,888.88	0.7	6,222.22	10,000	0.75	7,500
	27,777.76			30,000		15,880

	(1)	(2)	(3)	(4)
	SQSP(₹)	RSQSP(₹)	AQSP(₹)	AQAP(₹)
A	4,000	14,400 × 0.3	14,000 × 0.3	4,480
B	3,333.33	6,000 × 0.6	6,000 × 0.6	3,900
C	6,222.22	9,600 × 0.7	10,000 × 0.7	7,500
A		4,320	4,200	
B		3,600	3,600	
C		6,720	7,000	
	(₹)13,555.55	(₹)14,640	(₹)14,800	(₹)15,880

$$\text{RSQ for A} = \frac{30,000}{27,777.76} \times 13,333.333 = 14400$$

$$\text{RSQ for B} = \frac{30,000}{27,777.77} \times 5,555.55 = 6,000$$

RSQ for C = $\frac{30,000}{27,777.77} \times 8,888.88 = 9,600$

1. SQSP = ₹ 13,555.55
2. RSQSP = ₹ 14,640
3. AQSP = ₹ 14,800
4. AQAP = ₹ 15,880

a) Material Sub – usage Variance = (1-2) = ₹ 1084(A).
b) Material Mix Variance = (2-3) = ₹ 160 (A).
c) Material Usage Variance =(1-3) = ₹ 1244 (A).
d) Material Price Variance = (3-4) = ₹ 1080 (A).
e) Material Cost Variance = (1-4) = ₹ 2324 (A).

4.(a) The following data are available in manufacturing company an yearly period :

Variable expenses (at 50% of capacity)	**₹ (in lakhs)**
Materials	**21.7**
Labour	**20.4**
Other expenses	**7.9**
Semi- variable expenses (at 50% of capacity)	
Indirect labour	**7.9**
Repairs and maintenance	**3.5**
Sundry administrative expenses	**2.8**
Sales department salaries etc.	**3.8**
Fixed expenses	
Wages & salaries	**6.6**
Rents , rates & taxes	**6.5**
Depreciation	**9.5**
Sundry administrative expenses	**7.4**

Assume that the fixed expenses remains constant for all levels of production , semi – variable expenses remains constant between 45% and 65 % of capacity , increasing by 10% between 65 % and 80 % capacity and by 20% between 80% and 100 % capacity.

Sales at various levels are :	**₹ (in lakhs)**
50% capacity	**100**
60% capacity	**120**
75% capacity	**150**
90% capacity	**180**
100% capacity	**200**

Prepare a flexible budget for the year and forecast the profit at 60%, 75%, 90%, 100% of capacity. [8]

(b) A company fixes the inter-divisional transfer prices for its products on the basis of cost plus an estimated return on investment in its divisions. The relevant portion of the budget for the Division JOJO for the year 2018 -19 is given below:

Particulars	Amount (₹)
Fixed Assets	**10,00,000**
Current Assets (other than debtors)	**6,00,000**
Debtors	**4,00,000**
Annual fixed cost for the division	**16,00,000**
Variable cost per unit of product	**10**
Budgeted volume of production per year (units)	**8,00,000**
Desired Return on investment	**28%**

You are required to determine the transfer price for Division JOJO. [4]

Answer:

(a)

Flexible Budget

	₹ (in lakhs)				
Activity level	50%	60%	75%	90%	100%
Fixed expenses :					
Wages and salaries	6.6	6.6	6.6	6.6	6.6
Rent , rate and taxes	6.5	6.5	6.5	6.5	6.5
Depreciation	9.5	9.5	9.5	9.5	9.5
Sundry administrative expenses	7.4	7.4	7.4	7.4	7.4
Semi – variable expenses					
Repairs and maintenance	3.5	3.5	3.85	4.2	4.2
Indirect wages	7.9	7.9	8.69	9.48	9.48
Sales department salaries etc.	3.8	3.8	4.18	4.56	4.56
Sundry administrative expenses	2.8	2.8	3.08	3.36	3.36
Variable expenses					
Material	21.70	26.04	32.55	39.60	43.40
Labour	20.40	24.48	30.60	36.72	40.80
Other expenses	7.9	9.48	11.85	14.22	15.80
Total cost of production	98.00	108.00	124.8	142.14	151.60
Profit	2.00	12.00	25.20	37.86	48.40
Sales	100.00	120.00	150.00	180.00	200.00

(b) Computation of Transfer Price per unit for Division JOJO

Particulars	Amount (₹)
Variable cost	10
Fixed cost (16,00,000/8,00,000)	2
Total cost	12
Add : Desired return (20,00,000 × 28%)/ 8,00,000	0.7
Transfer Price	12.70

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

(a) Break-even Analysis
(b) Performance Budgeting
(c) Advantages of Uniform Costing
(d) Difference between Standard Costing and Budgetary Control

Answer:

(a) Break-even Analysis:

Break Even means the volume of production or sales where there is no profit or loss. In other words, Break Even Point is the volume of production or sales where total costs are equal to revenue. It helps in finding out the relationship of costs and revenues to output. In understanding the breakeven point, cost, volume and profit are always used.

When no. of units are expressed on X-axis and costs and revenues are expressed on Y-axis, three lines are drawn i.e., fixed cost line, total cost line and total sales line. In the above graph we find there is an intersection point of the total sales line and total cost line and from that intersection point if a perpendicular is drawn to X-axis, we find break even units. Similarly, from the same intersection point a parallel line is drawn to X-axis so that it cuts Y-axis, where we find Break Even point in terms of value.

(b) Performance Budgeting:

Performance Budgeting is synonymous with Responsibility Accounting, which means that the responsibility of various levels of management is predetermined in terms of output or result keeping in view the authority is vested with them.

Performance budget is a budget that reflects the input of resources and the output of services for each unit of an organization. This type of budget is commonly used by the government to show the link between the funds provided to the public and the outcome of these services.

Performance budgeting is a method of budgeting that provides the purpose and objectives for which funds are needed, costs of programs and related activities proposed to accomplish those objectives and outputs to be produced or services to be rendered under each program.

Performance budgeting follows the validation that a relaxation of input controls and an increased flexibility enhances managers' performance as long as results are measured and managers are held responsible for their results . The major aim of performance budgeting is to improve the efficiency of public expenditure, by linking the funding of public sector organizations to the results they deliver. It adopts organized performance information (indicators, evaluations, program costings) to make this link. There is a good impact of performance budgeting on organizations in terms of improved prioritization of expenditure, and in improved service effectiveness.

Performance budgeting is based on a classification of managerial level for the purpose of establishing a budget for each level. The individual in charge of that level should be made responsible and held accountable for its performance over a given period of time .

(c) Advantages of Uniform Costing:

Main advantages of a uniform Costing System are summarised below:

(i) It provides comparative information to the members of the organisation/association which may by them to reduce or eliminate the evil effects of competition and unnecessary expenses arising from competition.

(ii) It enables the industry to submit the statutory bodies reliable and accurate data which might be required to regulate pricing policy or for other purposes.

(iii) It enables the member concerns to compare their own cost data with that of the others detect the weakness and to take corrective steps for improvement in efficiency.

(iv) The benefits of research and development can be passed on the smaller

members of the association lead to economy of the industry as a whole.

(v) It provides all valuable features of sound cost accounting such as valued and efficiency of the workers, machines, methods, etc., current reports of comparing major cost items with the predetermined standards, etc.

(vi) It serves as a prerequisite to Cost Audit and inter firm comparison

(d) Difference between Standard Costing and Budgetary Control:

	Standard Costing	Budgetary Control
(i)	Standards are based on technical assessments	Budgets are based on past actuals adjusted to future trends
(ii)	Standards are mainly for production expenses i.e., elements of cost	Budgets are compiled for sales, production, expenses, Profit, capital expenditure
(iii)	Standard cost is projection of cost accounts.	Budgets are projects of financial accounts
(iv)	Standards are minimum targets which are to be attained	Budgets are the maximum limits of expenses above which expenditure should not be incurred.
(v)	Standards are pointers to further improvements.	Budgets are indices, adherence to which keeps a business out of problems.
(vi)	Variances are accounted for in the books.	Variance analysis is only a statistical data
(vii)	Standards are expressed per unit of production	Budgets are expressed in totals of amounts
(viii)	Detailed analysis is needed in case of variances, whether they are favourable or unfavourable.	No further analysis is required if costs are within the budget

SECTION- B (Financial Management)
PART- I

6. Answer the following questions: [1x6=6]

(A) Choose the correct answer from the given four alternatives.

(i) When cost of capital of a project is equal to its Internal Rate of Return(IRR)

(a)NPV will be zero.
(b) NPV will be +ve.
(c) NPV will be -ve.
(d)Benefit cost ratio will be zero.

(ii) A process through which loans and other receivables are underwritten and sold in a form of asset is known as:

(a) Factoring
(b) Forfeiting
(c) Securitisation
(d) Bill Discounting

(iii) Which of the following does not help to increase Current Ratio?

(a) Issue of Debentures to buy Stock.
(b) Issue of Debentures to pay Creditors.
(c) Sale of Investment to pay Creditors.
(d) Avail Bank Overdraft to buy Machine.

(iv) A firm has capital of Rs 10 lakhs,sales of Rs 5 lakhs,gross profit of Rs 2 lakhs and expenses of Rs 1 lakh.The Net Profit Ratio is:

(a) 50%
(b) 40%
(c) 20%
(d) 10%

(v) The excess of Current Assets over Current Liabilities is called:

(a) Net Current Assets.
(b) Net Working Capital.
(c) Working Capital.
(d) All of the above.

(vi) Type of accounting which measures, reports and analyse non-financial and financial information to help in decision making is called:

(a) Financial Accounting.
(b) Management Accounting.
(c) Cost Accounting.
(d) Green Accounting.

Answer:

i. (a)
ii. (c)
iii. (d)
iv. (c)
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	Zero Base Budgeting	A	Negotiated Pricing
2	Value of share is worth the present value of its future dividend rather than its earnings	B	Myron Gordon
3	Dividend policy has an impact on share valuations	C	John Burr Williams
4	Transfer Price	D	Discretionary Cost

Answer:

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

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

i. CVP analysis assumes a linear revenue function and a linear cost function.
ii. The key issue of the theory of capital structure is to examine whether a business can change its value and cost of capital by changing its capital structure.
iii. Treasury Bills are short term instruments issued by the Reserve Bank of India to address short term liquidity shortfalls.
iv. While calculating cost of redeemable debt, it is necessary to consider the repayment of the principal, but the interest can be ignored.

Answer:

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

PART – II

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

7.(a) From the following information prepare a statement of Proprietors' Funds:

(i) Current Ratio = 2.5:1
(ii) Fixed Assets/Proprietors Funds = 0.75
(iii) Liquid Ratio = 1.5 : 1
(iv) Bank Overdraft = ₹ 20,000
(v) Reserves and Surplus = ₹ 1,60,000
(vi) Working Capital = ₹ 2,40,000 **[4]**

(b) Dunlop Ltd. provides the following data :

Comparative trial balance

	31/3/2019	31/3/2018	Increase (decrease)
Debit balance	₹	₹	₹
Working capital	4,00,000	2,00,000	2,00,000
Investment	2,00,000	3,00,000	(1,00,000)
Building & Equipment	10,00,000	8,00,000	2,00,000
Land	80,000	1,00,000	(20,000)
	16,80,000	14,00,000	2,80,000
Credit Balance			
Accumulated depreciation	4,00,000	3,20,000	80,000
Bonds	2,00,000	1,00,000	1,00,000
Reserves	6,80,000	6,80,000	------
Equity shares	4,00,000	3,00,000	1,00,000
	16,80,000	14,00,000	2,80,000

Income Statement for the period ending March 31,2019

Particulars	₹	₹
Sales		20,00,000
Cost of goods sold		(10,00,000)
		10,00,000
Selling expenses	1,00,000	
Administrative expenses	1,00,000	2,00,000
Operating income		8,00,000
Other charges and credits:		
Gains on sale of building and equipment	10,000	
Loss on sale of investments	(20,000)	
Interest	(12,000)	
Taxes	(3,78,000)	(4,00,000)
Net income after taxes		4,00,000

Notes : (i) The depreciation charged for the year ended March's 2019 was ₹1,20,000 .

(ii) The book value of the building and equipment disposed of was ₹ 20,000.

(iii) Land was sold at no profit no loss basis. **[8]**

Required:

Prepare a Fund Flow Statement for the period ending March 31, 2019

Answer :

(a) If Working Capital = CA – CL = ₹ 2,40,000 and CA = 2.5 CL,
Then 2.5 CL – CL = ₹ 2,40,000
Therefore CL =₹ 1,60,000 and CA = ₹4,00,000
Liquid Ratio = Quick Assets/CL = 1.5
Therefore Quick Assets = CL × 1.5 = ₹ 2,40,000
Since Quick Assets = CA – Stock, then Stock = CA – QA = ₹1,60,000

If Proprietors Funds are P then Fixed Assets = 0.75P
Proprietors Funds + CL = FA + CA
Or P + 1, 60,000 = 0.75P + 4,00,000
Or 0.25 P = 2, 40,000, or P = ₹ 9, 60,000,
FA = 9, 60,000+1,60,000-4,00,000 = ₹ 7,20,000
Since Proprietary Funds are = Sh. Capital + Reserves,
Therefore Sh. Capital = ₹8,00,000

Statement of Proprietors Fund

Proprietors Fund	₹	₹
Share Capital	8,00,000	
Reserve and Surplus	1,60,000	9,60,000
Investment Of Funds		
Fixed Assets	7,20,000	
Stocks	1,60,000	
Other Current Assets	2,40,000	
Less: Current Liabilities	1,60,000	9,60,000

(b) Fund Flow Statement of Dunlop Ltd. for the period ended march 31, 2019

Sources of Funds

Funds from business operations:	₹	₹
Net Income after taxes	4,00,000	
Add : Depreciation	1,20,000	
Interest	12,000	
Loss on sale of investments	20,000	
Less : Gain on sale of building and equipment	(10,000)	5,42,000
Issuance of long –term liabilities :		
Equity shares	1,00,000	
Bonds	1,00,000	2,00,000
Sales of Non- current assets :		
Investments (₹ 1,00,000 - ₹ 20,000)	80,000	
Land (₹ 1,00,000 - ₹ 80,000)	20,000	
Building and equipment (₹20,000 + ₹ 10,000)	30,000	1,30,000
Total		8,72,000

Working Notes :

1. Accumulated Depreciation Account

Dr. Cr.

Particulars	₹	Particulars	₹
To Building and equipment (depreciation on sale of	40,000	By balance b/d	3,20,000

building and equipment)			
To balance c/d	4,00,000	By P/L A/c (depreciation of the year 2019)	1,20,000
	4,40,000		4,40,000

2. Building & Equipment A/c

Dr. Cr.

Particulars	₹	Particulars	₹
To balance b/d	8,00,000	By cash	30,000
To P&L A/c	10,000	By accumulated depreciation	40,000
To cash (purchases)	2,60,000	By balance b/d	10,00,000
	10,70,000		10,70,000

3. Reserves account

Dr. Cr.

Particulars	₹	Particulars	₹
To Dividend Paid (bal. fig.)	4,00,000	By balance c/d	6,80,000
To balance c/d	6,80,000	By profit of the year 2019	4,00,000
	10,80,000		10,80,000

8.(a) Ziva Ltd. sells goods at a gross profit of 20% . It includes depreciation as a part of cost of production. The following figures for the 12 month-period ending March 31, current year are given to enable you to ascertain the requirements of working capital of the company on a cash cost basis .

In your working , you are required to assume that :

(i) A safety margin of 15% will be maintained;

(ii) Cash is to be held to the extent of 50% of current liabilities;

(iii) There will be no work –in –progress;

(iv) Tax is to be ignored;

(v) Finished goods are to be valued at manufacturing costs. Stocks of raw materials and finished goods are kept at one month's requirements.

Sales at 2 month's credit ₹ 13,50,000.

Materials consumed (suppliers' credit is for 2 months),₹ 3,37,500

Wages (paid on the last of the month), ₹ 2,70,000

Manufacturing expenses outstanding at the end of the year (cash expenses are paid one month in arrear), ₹ 30,000

Total administrative expenses (paid as above), ₹ 90,000

Sales promotion expenses(paid quarterly in advance), ₹ 45,000 **[6]**

(b) Calculate the operating leverage for each of the four firms P,Q,R and S from the following price and cost data. What conclusion can you draw with respect to levels of fixed cost and the degree of operating leverage result ? Explain. Assume number of units sold is 10,000.

	Firms			
	P	**Q**	**R**	**S**
Sales price per unit	**₹20**	**₹32**	**₹50**	**₹70**
Variables cost per unit	**6**	**16**	**20**	**50**
Fixed operating cost	**1,60,000**	**80,000**	**4,00,000**	**Nil**

[6]

Answer :

(a) Statement showing determination of working capital

Particulars	₹	₹
(A) Current assets :		
(i) Raw material	(3,37,500 /12)	28,125
(ii) Finished goods	(9,67,500/12)	80,625
(iii) Debtors	(11,02,500 ×2/12)	1,83,750
(iv) Sales promotion expenses	(45,000 × 3/12)	11,250
(v) Cash in hand	(1,05,000 × 0.5)	52,500
Total current assets		3,56,250
(B) Current liabilities :		
(i) Creditors	(3,37,500 ×2/12)	56,250
(ii) Manufacturing expenses		30,000
(iii) Administrative expenses	90,000 /12	7,500
(iv) Wages	(2,70,000 ×1/24)	11,250
Total current liabilities		1,05,000
(C) Net working capital (A-B)		2,51,250
Add: Safety margin	(0.15× ₹ 2,51,250)	37,688
Working capital required on cash cost basis		2,88,938

Working notes :

(i) Determination of manufacturing expenses		₹
Sales		13,50,000
Less : Gross profit margin	₹ 13,50,000 × 0.20	2,70,000
Total manufacturing costs		10,80,000
Less : Cost of materials consumed	3,37,500	
Less : Wages	2,70,000	(6,07,500)
Manufacturing expenses (bal. fig.)		4,72,500
(ii) Cash manufacturing expenses	30,000 × 12	3,60,000
(iii) Depreciation	4,72,500 -3,60,000	1,12,500
(iv) Cash manufacturing costs	10,80,000-112,500	9,67,500
(v) Cash cost of sales	9,67,500 + 90,000+45,000	11,02,500

(b)

	Firms			
	P	Q	R	S
Sales (units)	10,000	10,000	10,000	10,000
Sales revenue (unit × price)	2,00,000	3,20,000	5,00,000	7,00,000
Less: Variable cost (units × VC per unit)	60,000	1,60,000	2,00,000	5,00,000
Less : Fixed cost	1,60,000	80,000	4,00,000	NIL
EBIT	(20,000)	80,000	(1,00,000)	2,00,000

$$DOL = \frac{\text{Current sales - Variable cost}}{\text{Current EBIT}}$$

$$DOL(P) = \frac{2,00,000 - 60,000}{20,000} = 7$$

$$DOL(Q) = \frac{3,20,000 - 1,60,000}{80,000} = 2$$

$$DOL\ (R) = \frac{5,00,000 - 2,00,000}{1,00,000} = 3$$

$$DOL\ (S) = \frac{7,00,000 - 5,00,000}{2,00,000} = 1$$

The operating leverage exists only when there are fixed cost. In this case of firm S, there is no magnified effect on the EBIT due to change in sales . Operating leverage is maximum in firm P, followed by firm R and minimum in firm Q . The interpretation of DOL of 7 is that 1% change in sales results in 7% change in EBIT level in the direction of the change of sales level of firm P.

9. (a) Jamia Ltd. has on its book the following amounts and specific costs of each type of capital :

Type of capital	Book value	Market value	Specific costs (%)
Debt	**8,00,000**	**7,60,000**	**5**
Preference	**2,00,000**	**2,20,000**	**8**
Equity	**12,00,000**	**24,00,000**	**15**
Retained earnings	**4,00,000**		**13**
	26,00,000	**33,80,000**	

[5]

(b) A plastic manufacturer has under consideration the proposal of production of high quality plastic bowl .The necessary equipment to manufacture the bowl would cost ₹ 2 lakhs and would last 5 years . The tax relevant rate of depreciation is 20% on written down value . There is no other asset in the block. The expected salvage is ₹ 20,000 . The bowl can be sold at ₹ 4 each . Regardless of the level of production , the manufacturer will incur cash cost ₹ 50,000 each year if the project is undertaken. The overhead costs allocated to this new line would be ₹ 10,000. The variable costs are estimated at ₹ 2 per bowl . The manufacturer estimates it will sell about 1,50,000 bowl per year ; the tax rate is 35% . Should the proposed equipment be purchased ? Assume 20% cost of capital and additional working requirement, ₹1,00,000. [7]

Answer :

(a) Determination of weighted average cost of capital using book value weighs :

Type of capital	Book value (₹) (BV)	Specific costs (%) (K)	Total cost (₹) BV × K
Debt	8,00,000	5	40,000
Preference	2,00,000	8	16,000
Equity	12,00,000	15	1,80,000
Retained earnings	4,00,000	13	52,000
	26,00,000		2,88,000

$$K_0 = \frac{\text{Total cost}}{\text{Total amount of capital}} = \frac{2,88,000}{26,00,000} \times 100 = 11.07692\%$$

Determination of weighted average cost of capital using market value weights:

Type of capital	Market value (₹) (MV)	Specific costs (%) (K)	Total cost (₹) MV × K
Debt	7,60,000	5	38,000
Preference	2,20,000	8	17,600
Equity	18,00,000	15	2,70,000
Retained earnings	6,00,000	13	78,000
	33,80,000		4,03,600

$$K_0 = \frac{\text{Total cost}}{\text{Total amount of capital}} = \frac{4,03,600}{33,80,000} \times 100 = 11.9408\ \%$$

The K_0 based upon market value is greater than K_0 upon book value because market value of equity fund is considerably larger than their book value and since these sources of long term funds have higher specific costs , the overall cost of capital increases.

The weighted average cost of capital would be the same with both the book value weights and market value weights when there is no difference between the book value and the market value of securities used in raising the capital.

(b) Cash outflows

Cost of production equipment	₹ 2,00,000
Additional working capital requirement	₹ 1,00,000
	₹ 3,00,000

Determination of CFAT and NPV :

Particulars	Years				
	1	2	3	4	5
Sales revenue (1,50,000 × 4)	6,00,000	6,00,000	6,00,000	6,00,000	6,00,000
Less : Costs					
Variable costs (1,50,000×2)	3,00,000	3,00,000	3,00,000	3,00,000	3,00,000
Additional fixed costs	50,000	50,000	50,000	50,000	50,000
Depreciation (D)	40,000	32,000	25,600	20,480	Nil
Earnings before taxes	2,10,000	2,18,000	2,24,400	2,29,520	2,50,000
Less : Taxes	73,500	76,300	78,540	80,332	87,500
Earning after taxes (EAT)	1,36,500	1,41,700	1,45,860	1,49,188	1,62,500
CFAT (EAT + D)	1,76,500	1,73,700	1,71,460	1,69,668	1,62,500
Add: Recovery of WC					1,00,000
Add : Salvage (SV)					20,000
Add : Tax benefit on short term capital loss (Note 1)					21,672
					3,04,172
Multiplied by PV factor 0.20	0.833	0.694	0.579	0.482	0.402
PV (CFAT × PV factor)	1,47,025	1,20,548	99,276	81,780	1,22,278
Total PV(t= 1-5)					5,70,907
Less : Cash outflow					3,00,000

NPV					2,70,906

Note 1: ₹2,00,000-1,18,080(accumulated depreciation)-₹20,000(SV)×0.35
= ₹ 21,672.

Note 2: As the block consists of single asset , no depreciation is to be charged in the terminating year as the asset has been sold in the year.

Recommendation : The company is advised to buy the proposed equipment .

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

(a) Window Dressing
(b) Capital Asset Pricing Model
(c) Advantages of Ratio Analysis
(d) Limitations of Funds Flow Statement.

Answer :

(a) Window Dressing:

The term window dressing means manipulation of accounts in a way so as to conceal vital facts and present the financial statements in a way to show a better position than what it actually is. On account of such a situation, presence of a particular ratio may not be a definite indicator of good or bad management For example a high stock turnover ratio is generally considered to be an indication of operational efficiency of the business. But this might have been achieved by unwarranted price reductions or failure to maintain proper stock of goods.

(b) Capital Asset Pricing Model:

Another technique that can be used to estimate the cost of equity is the capital asset pricing model approach. The capital asset pricing model explains the behaviour of security prices and provides a mechanism whereby investors could assess the impact of a proposed security investment on their overall portfolio risk and return.

In other words, CAPM formally describes the risk required return trade off for securities. The assumptions for CAPM approach are:

i) The efficiency of the security

ii) Investor preferences. The capital asset pricing model describes the relationship between the required rates of return, or the cost of equity capital and the non-diversifiable or relevant risk of the firm as reflected in its index of non-diversifiable risk.

Symbolically, $Ke = Rf + \beta (Rm – Rf)$

Where, Ke = Cost of equity capital
Rf = Risk free rate of return
Rm = Return on market portfolio
β = Beta of Security.

(c) Advantages of Ratio Analysis:

Ratio Analysis is useful and very relevant in assessing the performance of a firm in respect of the following purposes:

- Ratio analysis is the process of determining and interpreting numerical relationships based mainly on the financial statements.
- To measure the liquidity position, i.e., whether the firm will be able to meet its¬ current obligations when they become due or not.
- To know the solvency position for assessing the long-term financial liability of the firm
- Operating efficiency or turnover of the firm.

- To assess the profitability position of the firm, in respect of sales and the investments.
- For Inter-firm and Intra-firm comparison, to assess the relative position of the firm vis-a-vis its competitors.
- For Trend Analysis, for ascertaining whether the financial position of a firm is improving or deteriorating over the years.
- Commercial Bankers and Trade Creditors are most interested in ratios like Current Ratio, Acid Test Ratio, Turnover of Receivables, Inventory Turnover, Coverage of interest by level of earnings, etc.

(d) Determinants of Working Capital:

The size or magnitude and amount of working capital will not be uniform for all organizations and will differ from one organization to another.

The following are some factors that would determine the size of Working Capital:

- Nature and size of the Business.
- Production Policies of the concern.
- Process of manufacturing.
- Growth and expansion of business.
- Fluctuations in the trade cycle.
- Dividend Policy.
- Operating Efficiency.
- Other Factors like Market facilities, tax considerations, Locational Factors, Labour availability.