Paper 8- Cost Accounting & Financial Management

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

Section-A:

Answer Question No. 1 which is compulsory Carries 25 Marks

1. Answer the following questions

(A) Each Question carries 2 Marks [5 ×2 = 10]

(i) Material with invoice value ₹ 10,000 was received in the Stores Dept. The transport cost was ₹ 200. Since the material leaked in transit, damage to other goods of ₹ 350 had to be paid to the transporter. What would be the material cost?

(ii) Prime Cost = ₹ 12,50,000; Works Cost = ₹ 20,00,000 and office overheads are 30% of factory overheads. What is the Cost of Production?

(iii) The variable and semi variable costs of producing 50,000 units are ₹ 6 per unit and ₹12 per unit respectively. If at 20,000 units, these total costs add up to ₹ 4,80,000, what is the amount of fixed cost component of the semi variable cost?

(iv) M. Ltd. does not use any debt in its capital structure. The company has earnings before interest and tax of ₹ 2,00,000 per annum and the capitalization rate is 12%. Assume corporate tax of 30%. Calculate the value of the firm according to MM Hypothesis.

(v) The proprietor's fund is ₹45,00,000 and ratio of fixed assets to proprietor's funds is 0.75. Find the amount of net working capital.

(B) State whether the following statements are True or False [5 ×1 = 5]

(i) Overhead and conversion cost are inter-changeable terms.

(ii) Royalty based on units produced is considered as direct expenses.

(iii) Ideal standards are achievable in normal course.

(iv) Operating Cycle means time required to Produce One Quantity of a Product.

(v) NPV is Non-Discounted Cash Flow Technique of Capital Budgeting.

(C) Fill in the Blanks [5 × 1 = 5]

(i) When time saved is equal to time taken then earnings of a worker under Halsey Plan and Rowan Plan are the _____.

(ii) The difference between actual and absorbed factory overhead is called _____.

(iii) Under-absorption of ---------- results in higher amount of profit.

(iv) If Profitability Index is 1, cash inflow and cash outflow would be----------.

(v) A GDR is a ……. Instrument.

(D) Match the Following **[5 × 1 = 5]**

Column I	Column II
1. Time & Motion Study	A. No. of extensions in a department
2. Primary Packing Material	B. Profitability rate
3. Telephones	C. Management
4. Management accounting is a tool to	D. Direct Material Cost
5. Angle of Incidence	E. Labour Incentive Scheme

Answer:

(A) Answer the following:

(i) Material Cost = 10,000 + 200
= 10,200.
As per CAS, material cost includes purchase cost, transport inwards and excludes any damages or penalty paid to any authority.

(ii) Factory overheads = 7,50,000; Office OH = 30 % = 2,25,000;
COP = 22,25,000

(iii) Total Cost at 50,000 units = 18 x 50,000 = 9,00,000;
Cost at 20,000 = 4,80,000.
Difference in costs/ diff. in qty = 4,20,000/30,000 = ₹ 14 per unit.
At 20,000 level, Variable cost = 14 x 20,000 = 280,000.
Hence fixed cost component = 480,000-280,000 = 2,00,000

(iv) V_U = EBIT (1-t)/K_0 = 2,00,000 (0.7)/0.12
= 11,66,667

(v) Fixed Assets = 0.75 × 45,00,000;
FA 33,75,000.
Net Current Assets = Proprietors Funds – Fixed Assets
= 45,00,000 – 33,75,000
= 11,25,000
∵ Net working capital = Net current assets.

(B) True or False:

(i) False

(ii) True

(iii) False

(iv) False

(v) False

(C) Fill in the blanks:

(i) Same

(ii) Under or Over absorbed overheads

(iii) Overhead

(iv) Equal

(v) Negotiable

(D) Matching:

Column I	Column II
1. Time & Motion Study	**E.** Labour Incentive Scheme
2. Primary Packing Material	**D.** Direct Material Cost
3. Telephones	**A.** No. of extensions in a department
4. Management accounting is a tool to	**C.** Management
5. Angle of Incidence	**B.** Profitability rate

Section-B

Answer any three Question from Q. No 2,3,4 and 5. Each Question carries 15 Marks

2. (A) A Ltd. was ordering (in economic order quantities) (EOQ) its raw material RM at a price of ₹750 per unit. The average annual consumption was 18000 units. Carrying cost was 20% of average inventory and the ordering cost was ₹1500 per order. A Ltd. wants to move towards the Just-In-Time system and the new policy proposes as follows:
The average number of units held in stock will be 100 units;
Ordering cost per order will be ₹1510;
Carrying cost will be 20% of average inventory.
However the purchase price will increase. The total new ordering cost will be 9 times the new carrying cost.

(i) What was the EOQ before the new policy?

(ii) Calculate the inventory turnover ratio before and after the new policy.

(iii) How much is the increase in purchase price under the new policy? Compare the two policies regarding raw material management and offer your comments.

[3+4+5=12]

Answer:

(i) Let, 'q' be the EOQ.

At EOQ, Ordering cost = Carrying cost

$$\frac{18{,}000}{q} \times 1{,}500 = 750 \times 20\% \times \frac{q}{2}$$

$$q^2 = \frac{18{,}000 \times 1500 \times 2}{750 \times 20\%}$$

$q = 600$

Therefore, before the new policy the EOQ was 600 units.

(ii) Inventory turnover ratio = $\frac{\text{Cost of goods sold}}{\text{Average inventory}}$

Before the new policy = $\frac{18{,}000 \times 750}{\frac{600}{2} \times 750} = \frac{18{,}000}{300} = 60 \text{ times}$

After the new policy = $\frac{18{,}000 \times 750}{100 \times 750} = \frac{18{,}000}{100} = 180 \text{ times}$

(iii) Let 'X' be the new purchase price

As per the question,

9 (20% x 100 x X) = (18,000/200) x 1510 [assuming the EOQ = 100 x 2 = 200 units]

Or, 180 X = 1,35,900

Or, X = 755

Therefore, increase in purchase price is ₹ 5 p.u.

Comparison of policies

Particulars	Computation	Old policy	New policy
Purchase cost	18,000 x 750 18,000 x 755	1,35,00,000	 1,35,90,000
Ordering cost	(18,000 ÷ 600) x 1500 (18000 ÷ 200) x 1510	45,000	 1,35,900
Carrying cost	20% of (600 ÷ 2) x 750 20 % of (200 ÷ 2) x 755	45,000	 15,100
Total		1,35,90,000	1,37,41,000

As the total cost is more in case of new policy, inventory management should be as per EOQ method.

(B) ₹3,000/- and ₹60,000/- are written off raw materials and finished goods respectively for obsolescence. How should these be treated in Cost Accounts? [3]

Answer:

Obsolete inventory- Cost of Raw Material and Finished goods should be directly written of in the Profit & Loss A/c. No charge is made to cost of production.

₹63,000 (₹3,000 + ₹60,000) should be written off to Profit & Loss A/c.

3. (A) What are the differences between Cost Control and Cost Reduction? [5]

Answer:

Cost Control	Cost Reduction
(a) Cost Control represents efforts made towards achieving target or goal.	**(a)** Cost Reduction represents the achievement in reduction of cost.
(b) The process of Cost Control is to set up a target, ascertain the actual performance and compare it with the target, investigate the variances, and take remedial measures.	**(b)** Cost Reduction is not concerned with maintenance of performance according to standard.

(c) Cost Control assumes the existence of standards or norms which are not challenged.	**(c)** Cost Reduction assumes the existence of concealed potential savings in standards or norms which are therefore subjected to a constant challenge with a view to improvement by bringing out savings.
(d) Cost Control is a preventive function. Costs are optimized before they are incurred.	**(d)** Cost Reduction is a corrective function. It operates even when an efficient cost control system exists. There is room for reduction in the achieved costs under controlled conditions.
(e) Cost Control lacks dynamic approach.	**(e)** Cost Reduction is a continuous process of analysis by various methods of all the factors affecting costs, efforts and functions in an organization. The main stress is upon the why of a thing and the aim is it have continual economy in costs

(B) Compute the employee cost from the following particulars:

Basic pay ₹3,00,000. Accommodation provided to employees free of cost (this accommodation is owned by the employer, depreciation of the accommodation is ₹50,000. Maintenance charges ₹40,000 and municipal tax of the accommodation ₹2,000. Employer's contribution to PF ₹60,000. Due to delay in making payment, a penalty was imposed for ₹3,000, which was paid by the employer.

Reimbursement of medical expenses ₹40,000.

Employees contribution to PF ₹60,000.

Bonus paid to employees ₹1,00,000.

Hospitalisation expenses of Employee's family ₹1,00,000 paid by employer. **[10]**

Answer:

Computation of Employee Cost:

	Particulars	**Amount (₹)**
	Basic pay	3,00,000
Add:	Cost of accommodation provided by employer = Depreciation + Maintenance Charges & Municipal Tax = 50,000 + 40,000 + 2,000 = 92,000	92,000
Add:	Employer's contribution to PF	60,000
Add:	Reimbursement of medical expenses	40,000
Add:	Hospitalization expenses	1,00,000
Add:	Bonus paid to employee	1,00,000
	Total Employee Cost	6,92,000

4. (A) Following particulars are revealed from the costing records of M/S Jupiter & Co. Ltd. in the year 2015:

Production - 15,000 units

	(₹)
Raw material cost	**3,00,000**
Labour cost	**1,80,000**
Factory overheads	**1,20,000**
Office overheads	**60,000**

Selling expenses	**15,000**

Rate of profit 25% on selling price.
Now the management decided to produce 20,000 units in 2016. As per Co's estimate, cost of raw materials will be increased by 25% and labour cost will also increase by 15%. 50% of overhead charges are fixed and the rest is variable. The selling expenses per unit will also be reduced by 25%.
There will be no change in rate of profit.
Prepare Cost Statements for both the years 2015 and 2016. **[4+7=11]**

Answer:

Statement of cost & profit (cost sheet)
Output 15,000 units for 2015

Particulars	Amount (₹)	Amount (₹)
Raw materials	20	3,00,000
Labour	12	1,80,000
Prime Cost	32	4,80,000
Add: Factory Overhead	8	1,20,000
Works cost	40	6,00,000
Add: Office overhead	4	60,000
Cost of Production	44	6,60,000
Add: Selling Exp.	1	15,000
Cost of Sales	45	6,75,000
Add: Profit 25% on Sales or 33/1/3 % on cost of sales	15	2,25,000
Sales	60	9,00,000

Statement of Cost & Profit (cost sheet)
Output 20,000 units for 2016

Particulars	Cost per Unit (₹)	Total Cost (₹)
Raw materials (₹20 × 125% × 20,000)	25	5,00,000
Add: Labour (₹12 × 115% × 20,000)	13.80	2,76,000
Prime Cost	38.80	7,76,000
Add: Factory Overheads [$\frac{₹1,20,000}{2}$ i.e. ₹60,000 + $\frac{₹60,000}{15,000} \times 20,000$ i.e.₹80,000]	7.00	1,40,000
Works Cost	45.80	9,16,000
Add: Office Overheads [$\frac{₹60,000}{2}$ i.e. ₹30,000 + $\frac{₹30,000}{15,000} \times 20,000$ i.e.₹40,000]	3.50	70,000
Cost of Production	49.30	9,86,000
Add: Selling Expenses [{₹1 × (100 – 25)%} × 20,000]	0.75	15,000
Cost of Sales	50.05	10,01,000
Add: Profit 25% on Sales or 33.33% on Cost of Sales	16.68	3,33,600
Sales	**66.73**	**13,34,600**

(B) What are the main objectives of group bonus system? **[4]**

Answer:

Following are the main objects or Group Bonus System:

- Creation of team Spirit
- Elimination of excessive waste materials and time.
- Recognition of group efforts.
- Improving productivity.

5. (A) A firm has purchased a plant to manufacture a new product. The cost data are given below:

Estimated annual sales	**36,000 units**
Material	**₹ 4 per unit**
Direct labour	**₹ 0.6 per unit**
Overheads - Manufacturing	**₹ 24,000 p.a.**
Administrative expenses	**₹ 28,800 p.a.**
Selling Expenses	**15% of sales**

Calculate the selling price if profit per unit is ₹ 1.50. Assume whatever is produced is sold [5]

Answer:

Variable cost p.u. = 4+.6 = 4.6

Profit = 1.5

Total = 6.1

6.1 x 36,000 + 24,000 + 28800 = .85 x s x 36000.

Selling price per unit = s = 8.9019 = 8.90

(B) The following information relates to the activities of production Dept. M of MTH Ltd. for Nov 2016:

Materials Consumed: ₹3,83,000; Direct labour: ₹5,74,000; Factory overhead chargeable to Dept. M: ₹ 2,75,760; Labour hours worked: 18,384 hours; Machine hours: 3064 hours;

One job order carried out in Dept. M has the following details:

Material Consumed: ₹ 11,000; Direct Labour Cost = ₹ 19,000; Direct labour hours: 540 hours;

Machine hours worked: 85 hours.

Find the amount of factory overheads for the job under the following methods of overhead absorption: % of direct material cost, % of direct labour cost, % of prime cost, direct labour hour rate and machine hour rate. [10]

Answer:

Parameters for overhead absorption	Total Cost for Dept	Deptal overhead as % of cost element	Job order Cost	Overhead to Job order at Deptal %
Material	3,83,000	275760/383000 = 72%	11000	**7920**
Direct Labour	5,74,500	2,75,760/ 574500 = 48%	19000	**9120**
Prime Cost	9,57,500	275760/957500 = 28.8%	30,000	**8640**
Machine Hours = 3064; Deptal m/c hr rate = 275760/3064 = **90 ₹/hr**				

M/c hour rate for job x m/c hrs for job = 85 x 90 =	**7650**
Direct labour hour rate for dept = 275760/18384 = **15 ₹/hr**	
Direct labour hour rate for job = 540 x 15 =	**8100**

Section-C

Answer any two Questions from Q. No 6, 7 and 8. Each Question carries 15 Marks

6. (A) XYZ Co. Ltd. desires to produce a new product at a price of ₹1,200 per unit, with the expectation of annual sales of 5,000 units. Variable costs amounts to ₹800 per unit and two months credit facility is to be granted.

It is estimated that 10% of customers will be defaulters. Others will pay on due date. Interest rate is 15% p.a. A credit agency has offered the Company a suggestion which it claims can help to identify possible bad debts. The agency for such job will demand ₹3,00,000 p.a. and will be able to identify 20% of customers as being potential bad debts. If these customers are rejected no actual bad debts will result. Should the Company accept the suggestion of credit agency? [3+4=7]

Answer:

The annual return from the new product if the agency is not engaged.

		(₹)
Sales (₹ 1,200 × 5,000)	-------	60,00,000
Less: Bad debts (10%)	------	6,00,000
		54,00,000
Variable cost (₹800 × 5,000)	40,00,000	
Interest on investment in debtors (40,00,000 × 15/100 × 2/12)	1,00,000	41,00,000
Net profit	-----	13,00,000

Annual return from new products if the credit agency is engaged:

		(₹)
Sales (80% of 60,00,000)	-------	48,00,000
Bad debts	------	-
		48,00,000
Variable Cost : (800 × 4,000)	32,00,000	
Interest on investment in debtors (32,00,000 × 15/100 × 2/12)	80,000	32,80,000
		15,20,000
Less: Cost of credit agency		3,00,000
Net profit	-	12,20,000

Since the net profits is reduced under the new agency's suggestion, (₹13,00,000 - ₹12,20,0000) the proposal should not be accepted.

(B) M/S Light & Sound Co. Ltd. has sales of ₹ 12,00,000, variable cost ₹9,00,000 and fixed cost is ₹2,00,000 and debt of ₹5,00,000 of 10% rate of interest.

From the above details find out the operating, financial and combined leverages. If the Co. wants to double its earnings before interest and tax (EBIT). how much of a rise in sales would be needed on a percentage basis? [6+2=8]

Answer:

Statement of Existing Profit:

	(₹)
Sales -	12,00,000
V. Cost	9,00,000
Contribution	3,00,000
Less: Fixed Cost	2,00,000
EBIT	1,00,000
Less: Interest @ 10% on ₹5,00,000	50,000
Profit before Tax (PBT)	50,000

Operating leverage $= \frac{\text{Contribution}}{\text{EBIT}} = \frac{3,00,000}{1,00,000} = 3$

Financial leverage $= \frac{\text{EBIT}}{\text{PBT}} = \frac{1,00,000}{50,000} = 2$

Combined leverage 3 × 2 = 6

Statement of sales needed to double the EBIT.

Operating leverage is 3 times i.e. 33/1/3% increase in sales volume causes a 100% increase in operating profit or EBIT. So, at the sales ₹ 16,00,000, operating profit EBIT will become ₹2,00,000 i.e. double the existing one.

7. (A) The following accounting information and financial ratios of Bhalu Ltd. relate to the year ended 31st March, 2016:

Inventory Turnover Ratio (considering cost of goods sold)	**6 times**
Creditors Turnover Ratio	**10 times**
Debtors Turnover Ratio	**12 times**
Current Ratio	**2.4**
Gross Profit Ratio	**25%**

Total sales ₹60 lakhs; cash sales 25% of credit sales; cash purchases ₹ 4,60,000; working capital ₹7,14,000; closing inventory is ₹1,60,000 more than opening inventory.

You are required to calculate:

(i) Average Inventory

(ii) Purchases

(iii) Average Debtors

(iv) Average Creditors

(v) Average Payment Period

(vi) Average Collection Period

(vii)Current Assets

(viii) Current Liabilities **[10]**

Answer:

(i) Computation of Average Inventory:

Gross Profit =25% of ₹60,00,000 = ₹15,00,000

Cost of goods sold (COGS) =₹60,00,000 - ₹15,00,000= ₹45,00,000

Inventory Turnover Ratio =COGS/Average Inventory

₹45,00,000/Average Inventory = 6

Average Inventory = ₹7,50,000

(ii) Computation of Purchases:
Purchases = COGS + Increase in Inventory = ₹45,00,000 + ₹1,60,000 = ₹46,60,000

(iii) Computation of Average Debtors:
Let credit sales be ₹100 then cash sales = 25% of 100 = ₹25, and total sales = ₹125
When total sales is ₹60 lakhs then credit sales = ₹60,00,000 × 100/125 = ₹48,00,000 and cash sales = ₹12,00,000
Debtors Turnover = Net Credit Sales/Average Debtors = 12
Average Debtors = ₹48,00,000 /12 = ₹4,00,000

(iv) Computation of Average Creditors:
Credit Purchase = Purchases ₹46,60,000 – Cash purchase ₹4,60,000 = ₹42,00,000
Creditors Turnover = Credit Purchases/Average Creditors
Average Creditors = ₹42,00,000/10 = ₹4,20,000

(v) Computation of Average Payment Period:
Average Payment Period = Average Creditors × 365/Credit Purchase
=₹4,20,000 × 365/ ₹42,00,000 = 36.5 days
Or 365/Creditors Turnover = 365/10 = 36.5 days

(vi) Computation of Average Collection Period:
Average Collection Period = Average Debtors × 365/Net Credit Sales
= ₹4,00,000 × 365/ ₹48,00,000 = 30.417 days
Or 365/Debtors Turnover = 365/12 = 30.417

(vii + viii)
Computation of Current Assets and Current Liabilities:
Current Ratio = Current Assets / Current Liabilities =2.4
Let Current Liabilities be 'a' then Current Assets will be '2.4a' and Working Capital = 2.4a -a = 1.4a
If working capital is ₹7,14,000
Then Current Liabilities = ₹7,14,000 /1.4 = ₹5,10,000
Current Assets = ₹5,10,000 × 2.4 = ₹12,24,000

(B) A company has earnings of ₹5,00,000. The capital structure of the company has debt and equity in which debt of ₹8,00,000 is borrowed at 10%. The cost of equity capital is currently 12.5%. Calculate the value of the firm and overall cost of capital by the net income approach. Ignore taxes. Take market value of debt at par. [5]

Answer:

Computation of Value of the firm:

	₹
EBIT	5,00,000
Less: Interest on ₹8,00,000 @ 10%	80,000
Earnings for shareholders	4,20,000
K_e = Cost of Equity Capital	12.5%
Market value of equity	33,60,000
Market value of debt	8,00,000
Value of the firm	41,60,000

Overall cost of capital $\frac{₹5,00,000}{₹41,60,000}$ = 12.02% or 12.019% %

8. (A) The following balances are provided by M Ltd. for the years ended 31st March, 2014 and 2016:

Particulars	31.03.2015	31.03.2016
General Reserve	**2,40,000**	**2,90,000**
Profit & Loss A/c	**4,20,000**	**6,00,000**
11 % Debentures	**10,00,000**	**6,00,000**
Goodwill	**2,00,000**	**1,60,000**
Land & Building	**14,00,000**	**13,00,000**
Plant & Machinery	**12,00,000**	**13,20,000**
Investment (Non trading)	**4,80,000**	**4,40,000**
Creditors	**3,70,000**	**4,30,000**
Provision for tax	**1,60,000,**	**2,10,000**
Proposed Dividend	**2,72,000**	**2,88,000**
Stock	**8,00,000**	**7,70,000**
Debtors	**5,76,000**	**8,30,000**
Cash at Bank	**1,76,000**	**1,86,000**
Prepaid Expenses	**30,000**	**22,000**

Additional Information:

1. **Investment were sold during the year for ₹70,000.**
2. **During the year an old machine costing ₹1,60,000 was sold for ₹72,000. Its written down value was ₹90,000.**
3. **Depreciation was charged on plant and machinery @ 20% on the opening balance.**
4. **There was no purchase or sale of land and building during the year.**
5. **Provision for tax made during the year was ₹1,92,000.**
6. **During the year premium on redemption of debentures written-off was ₹40,000.**

You are required to prepare a statement showing the net cash flow from operating activities. [10]

Answer:

Statement Showing Net cash flow from Operating Activities for the year ended 31st March, 2016 of M Ltd.

Particulars	₹	₹
Profit & Loss A/c as on 31.03.2015		6,00,000
Less: Profit &Loss A/c as on 31.03.2014		4,20,000
		1,80,000
Add: Transfer to General Reserve (₹ 2,90,000 – 2,40,000)	50,000	
Provision for tax	1,92,000	
Proposed Dividend	2,88,000	5,30,000
Profit before tax		7,10,000
Adjustment for Depreciation:		
Land & Building	1,00,000	
Plant & Machinery	2,40,000	3,40,000
Profit on sale of Investment (₹70,000 - ₹40,000) **WN-2**		(30,000)

Loss on sale of Plant & Machinery		18,000
Goodwill written-off (₹ 2,00,000 – 1,60,000)		40,000
Premium on redemption of debentures written-off		40,000
Operating Profit before Working Capital Changes		11,18,000
W. C. Changes: Decrease in Prepaid Expenses		8,000
Decrease in Stock		30,000
Increase in Debtors		(2,54,000)
Increase in Creditors		60,000
Cash generated from Operations		9,62,000
Income Tax paid **WN-1**		(1,42,000)
Net Cash Inflow from Operating Activities		8,20,000

Working Notes:

Dr. Provision for Tax Account Cr.

Particulars	₹	Particulars	₹
To Bank A/c (Balancing figure)	1,42,000	By Balance b/d	1,60,000
To Balance c/d	2,10,000	By Profit & Loss A/c	1,92,000
	3,52,000		3,52,000

Dr Investment Account Cr.

Particulars	₹	Particulars	₹
To Balance b/d	4,80,000	By Bank A/c (sale)	70,000
To Profit & Loss A/c (profit)	30,000	By Balance c/d	4,40,000
	5,10,000		5,10,000

(B) M/s. Progressive Co. Ltd. is considering an investment in Machine X. The cash flows expected are as under:

Initial Outflow (in lakhs ₹) Cost of Machine	Cash in flows (in lakhs ₹) At the end of				
	1st year	2nd year	3rd year	4th year	5th year
30	-	10	15	12	16

The cost of capital is 10% p. a. PV of ₹1 at 10% from year one to five:

End of year	**1**	**2**	**3**	**4**	**5**
P/V factor:	**.91**	**.83**	**.75**	**.68**	**.62**

Advise the Management whether the machine may be bought using the Net Present Value Method. [5]

Answer:

MACHINE 'X' (₹ in Lakhs)

Year	Cash in Flow	P/V factor	P/V (₹)
1	-	0.91	-
2	10	0.83	8.30
3	15	0.75	11.25
4	12	0.68	8.16
5	16	0.62	9.92

			37.63
Less: Investment		-	30.00
		+Ve	7.63

NPV is +Ve, hence machine X can be bought.