Time Allowed: 3 Hours **Full Marks: 100**

The figures in the margin on the right side indicate full marks.

SECTION – A (Compulsory)

1. Choose the correct option: **[15×2 = 30]**

i. Which of the following is NOT typically part of Management Accounting?

a. Cost analysis and control
b. Performance evaluation and variance analysis
c. Preparation of financial statements for external reporting
d. Budgeting and forecasting

ii. What role do management accountants play in evaluating the impact of external changes on the business?

a. Assessing the impact of government policy and law changes on business goals
b. Designing marketing strategies
c. Setting up employee benefits plans
d. Managing customer relations

iii. Activity based cost systems would probably provide the greatest benefits for organizations that use

a. Job order costing
b. Process costing
c. Batch costing
d. Standard costing

iv. In Activity Based Costing:

a. Non-manufacturing costs may not be assigned to products
b. Some manufacturing costs may be excluded from product costs
c. Allocation bases are the same as those used in traditional costing methods
d. Similar to traditional costing, ABC only uses one overhead cost pool

v. In a purely competitive market, 10,000 pocket transistors can be manufactured and sold and certain profit is generated. It is estimated that 2.0 pocket transistors need to be manufactured and sold in a monopoly market to earn the same profit. Profit under both conditions is targeted at ₹ 2, 00,000. The variable cost per transistor is ₹ 100 and total fixed costs are ₹ 37,000. Unit selling price per transistor under monopoly condition will be:

a. ₹ 234.50
b. ₹ 267.25
c. ₹ 274.35
d. ₹ 218.50

vi. **A firm has given the following data:**
Fixed expenses at 50% ₹15,000, Fixed expenses when factory is close down ₹10,000, Additional expenses in closing down ₹1,000, Production at 50% capacity 5,000 units, contribution per unit ₹1. Advise whether to run the factory or close it down:

a. **Run**
b. **Close**
c. **Continue**
d. **None of the above**

vii. **Minimax Ltd. fixes inter - divisional transfer prices for its products on the basis of cost plus a return on investment in the division. The budget for division X for 2022 – 23 appears as under –**
Fixed Assets ₹8, 00,000
Current Assets ₹5, 00,000
Debtors ₹2, 00,000
Annual fixed cost of the division ₹8, 00,000
Variable cost per unit of the product ₹10
Budgeted volume 4, 00,000 units per year
Desired ROI 28%
Transfer price for division X is?

a. **₹13.05**
b. **₹10.70**
c. **₹8.70**
d. **₹14.70**

viii. **The standard cost card contains quantities and costs for**

a. **Direct material only.**
b. **Direct labour only.**
c. **Direct material and direct labour only.**
d. **Direct material, direct labour, and overhead.**

ix. **In producing product ZZ, 14,800 direct labor hours were used at a rate of ₹8.20 per hour. The standard was 15,000 hours at ₹8.00 per hour. Based on these data, the direct labour:**

a. **Quantity variance is ₹1,600 unfavourable.**
b. **Price variance is ₹2,960 favourable.**
c. **Quantity variance is ₹1,600 favourable.**
d. **Price variance is ₹3,000 unfavourable.**

x. **A company expects to sell 50,000 units at ₹20 each. The variable cost per unit is ₹12, and the fixed costs are ₹180,000. What is the company's budgeted profit?**

a. **₹4,00,000**
b. **₹2,20,000**
c. **₹1,40,000**
d. **₹2,00,000**

xi. **_____ is the first step of budgetary system and all other budgets depends on it.**

a. **Cost budget**
b. **Sales budget**
c. **Production budget**
d. **None of the above**

xii. **At the start of the year, a division has non-current assets of ₹ 4 million and makes no additions or disposals during the year. Depreciation is charged at a rate of 10% per annum on all non-current assets held at the end of the year. Working capital is ₹ 0.5 million at the start of the year although this is expected to increase by 20% by the end of the year. The budgeted profit of the division after depreciation is ₹1·2m. What is the expected ROI of the division for the year, based on average capital employed?**

a. **31·58%**
b. **26·37%**
c. **18·39%**
d. **27·59%**

xiii. **The characteristics of a responsibility system for a JIT, or lean organization include:**

a. **Competition between subsystems.**
b. **Independence of subsystems.**
c. **Cross functional measurements.**
d. **A and B.**

xiv. **The most elementary form of responsibility center is the _____.**

a. **Investment Center**
b. **Revenue Center**
c. **Profit Center**
d. **Cost Center**

xv. **A company is choosing which of three new products to make (A, B or C) and has calculated likely payoffs under three possible scenarios (I, II or III), giving the following payoff table.**

Profit (Loss) Scenario	Product Chosen		
	A	B	C
I	20	80	10
II	40	70	100
III	50	(10)	40

Using maximax, which product would be chosen?

a. **Product A**
b. **Product B**
c. **Product C**
d. **None of the Products**

Answers:

i	ii	iii	iv	v	vi	vii	viii	ix	x	xi	xii	xiii	xiv	xv
c	a	a	b	d	a	a	d	c	b	b	d	c	d	c

Section – B

(Answer any five questions out of seven questions given. Each question carries 14 Marks)

[5 x 14 = 70]

2. (a) Management Accounting serves as a tool to management – discuss. [7]

(b) ABC & Associates provides consulting and tax preparation services to its clients. It charges a ₹100 fee per hour for each service. The firm's revenues and costs for the month March 2022 are shown in the following income statement:

Particulars	Tax Preparation	Tax Consulting	Total
Revenue - Amount (₹)	1,30,000	2,70,000	4,00,000
Expenses:			
Secretarial support			80,000
Supplies			72,000
Computer costs, etc.			40,000
Profit			1,92,000

The firm uses ABC and the following are the cost drives:

Overhead Cost	Cost Driver	Tax Preparation	Tax Consulting
Secretarial support	Number of clients	72	48
Supplies	Transactions with clients	200	300
Computer costs	Computer hours	1,000	600

Required:

a. Complete the income statement using activity-based costing and the firm's three cost drivers.

b. Recompute the income statement using direct-labour hours as the only allocation base: 1,300 hours for tax preparation; 2,700 hours for tax consulting.

c. How might the firm's decisions be altered if it were to allocate all overhead costs using direct labour hours?

d. Under what circumstances would the about-based allocation and activity-based costing (using the three cost drivers) result in similar profit result? [7]

Answer:

2. (a) Strategies are long term plans which help organisations to realise its goal. Strategy is defined as a general direction set for the company and its various components to achieve a desired state in the future. A company's strategy specifies how the organisation matches its own capabilities with the opportunities in the marketplace. Basically businesses follow one of two broad strategies. Some companies follow a cost

leadership strategy. These companies, for long term sustenance, choose to provide quality products or services at low prices and by cautiously managing their costs. Other companies follow a product differentiation strategy. These companies offer differentiated or unique products or services that appeal to their customers. The products are often priced higher than the products or services of their competitors.

Mangers are faced with various challenges. One such is to decide between the two strategies discussed above. The crucial issue is that this have long term impact on profitability and growth of the company. Management accountants work closely with managers in various departments to formulate strategies by providing information about the sources of competitive advantage, such as:

- the company's cost, productivity, or efficiency advantage relative to competitors or
- the superior prices the company can charge relative to the costs of adding features that make its products or services distinctive.

Strategic cost management describes cost management that specifically focuses on strategic issues. Management accounting information helps managers formulate strategy by answering the following questions:

A) Who are the most important customers, and how can the company deliver value to the customers?
B) What substitute products exist in the marketplace, and how do they differ from products of the company in terms of features, price, cost, and quality?
C) What is most critical capability of the company which may be technology, production, or marketing?
D) How can we leverage it for new strategic initiatives?
E) Will adequate cash be available to fund the strategy, or will additional funds need to be raised?

The best-designed strategies and the best-developed capabilities are useless unless they are effectively executed which depends primarily on the information generated and provided by the management accountant. This linkage between successful implementation of strategy and the accounting information generated by management accounting is the subject matter of strategic cost management.

(b) Activity-based versus Traditional Costing

Particulars	Tax Preparation Amount ₹	Consulting Amount ₹	Total Amount ₹
Revenue	1,30,000	2,70,000	4,00,000
Less: Expenses Secretarial support	48,000	32,000	80,000
Supplies	28,800	43,200	72,000
Computer Depreciation	25,000	15,000	40,000
Profit	28,200	1,79,800	2,08,000

Working Notes:

(i) ₹80,000 ÷ 120 clients = ₹666.67 per client

(ii) ₹72,000 ÷ 500 transactions = ₹144 per transaction

(iii) ₹40,000 ÷ 1,600 hours = ₹25 per computer hour

(iv) ₹666.67 per client × 72 clients = ₹48,000

(v) ₹144 per hour × 200 transactions = ₹28,800

(vi) ₹25 per computer hour × 1,000 hours = ₹25,000

Particulars	Tax Preparation (₹)	Tax Consulting (₹)	Total (₹)
Revenue	1,30,000	2,70,000	4,00,000
Expenses	62,400	1,29,600	1,92,000
Profit	67,600	1,40,400	2,08,000

Working Notes:

(i) ₹48 per labour hour = ₹1,92,000 total expenses ÷ 4,000 labour hours
(4,000 labour hours = ₹ 4,00,000 revenue ÷ ₹100 per labour hour)

(ii) ₹62,400 = ₹48 per labour hour × 1,300 hours of labour

(iii) 2,700 labour hours × ₹48 per labour hour = ₹1,29,600

(a) Under the labour-based overhead allocation, tax preparation appears to be more profitable than it does under ABC, and might lead the firm to concentrate more heavily on tax preparation.

(b) ABC and traditional costing systems generally yield comparable product-line profits when overhead is a small portion of costs, or when cost drivers are highly correlated with direct-labour hours.

In this case, labour hours were distributed 32.5% to Preparation and 67.5% to Consulting. If firm's three cost drivers were each also distributed 32.5% to preparation and 67.5% to Consulting, the labour-hour and ABC allocation would be identical.

3. (a) Division A is a profit centre, which produces four products P, Q, R and S. Each product is sold in the external market also. Data for the period is as follows:

	P	Q	R	S
Market Price per unit (₹)	**350**	**345**	**280**	**230**
Variable Cost of Production per unit (₹)	**330**	**310**	**180**	**185**
Labour hours required per unit	**3**	**4**	**2**	**3**

Product S can be transferred to Division B but the maximum quantity that might be required for transfer is 2,000 units of S.

The maximum sales in the external market are:

P 3,000 units
Q 3,500 units
R 2,800 units
S 1,800 units

Division B can purchase the same product at a slightly cheaper price of ₹225 per unit instead of receiving transfers of products S from Division A.

Suggest the transfer price for each unit for 2,000 units of S, if the total labour hours available in Division A are:

(i) 24,000 hours?
(ii) 32,000 hours? **[14]**

Answer:

Statement Showing Contribution per unit and per labour hour

Particulars	P	Q	R	S
Selling Price per unit (₹)	350	345	280	230
Variable Cost per unit (₹)	330	310	180	185
Contribution per unit (₹)	20	35	100	45
Labour Hours per unit	3	4	2	3
Contribution per labour hour (₹)	6.67	8.75	50	15
Ranking	IV	III	I	II

Statement Showing Production Plan

Total Hours	Products	Hours/unit	Allocation of Hours
24,000	P	3	-
	Q	4	13,000
	R	2	5,600
	S	3	5,400
			24,000

Statement Showing Transfer Price per unit of the product S

Total labour hours required for S (2000 units × 3 hours per unit)	6,000
Hours diverted from Product Q (1,500 units × 4 hours per unit)	6,000
Variable Manufacturing cost for Product 'S' (2000 × ₹185) =	₹3,70,000
Contribution foregone/ Opportunity Cost of Product Q (1500 × ₹35)	₹52,500
	₹4,22,500

(i) Hence, Transfer Price per unit (`4,22,500 ÷ 2,000 units) = ₹211.25

Statement Showing Production Plan

Total Hours	Products	Hours/unit	Allocation of Hours
32,000	P	3	7,000
	Q	4	14,000
	R	2	5,600
	S	3	5,400
			32,000

Statement Showing Transfer Price per unit of the product S

Total labour hours required for S (2000 units × 3 hours per unit)	6,000
Hours diverted from Product Q (2,000 units × 3 hours per unit)	6,000
Variable Manufacturing cost for Product 'S' (2000 × ₹185) =	₹3,70,000
Contribution foregone/ Opportunity Cost of Product Q (2000 × ₹20)	₹40,000
	₹4,10,000

(ii) Hence, Transfer Price per unit (`4,10,000 ÷ 2,000 units) = ₹205.00

4. (a) An exporter of garments is earning a profit of ₹1,00,000 on a sale of ₹12,00,000. Selling price is ₹40 per garment and variable cost is ₹30 per garment. The exporter incurs an additional fixed cost of ₹3,00,000 on product improvement which also enables him to economies ₹5 in per garment variable cost.

As per trade agreements, the sale of his garments is restricted to the old value of ₹12,00,000. Evaluate the selling price per garment so that the exporter earns the same profit at the same sales value. [7]

(b) Susma Products Co. Ltd. manufactured and sold in a year 15,000 units of a particular product fetching a sales value of ₹15 lakhs. After charging direct material @ 30% on sales value, direct labour 20% on sales value, variable overheads ₹10 per unit, the company earned profit of ₹16.67% per unit during the year. The existing equipment can produce a maximum of 20,000 units per annum. In case, the demand exceeds the maximum output, new equipment will be required which will cost ₹10lakhs and it will have a life span of 10years, with no residual value.

A prospective customer is willing to place an order on the company for 10,000 units per year regularly at 90% of the present selling price, which will be, if accepted, over and above the existing market for 15,000 units.

Irrespective of the fact whether or not the new order materializes, the cost increases with immediate effect are:

a. **10% in the Direct Materials.**

b. **25% in the Direct Labour.**

c. **₹50,000 in Fixed Overheads per year.**

If the order of additional 10,000 units is accepted, the fixed overhead will increase by another ₹50,000 by way of increased administration expenses.

You are required to recommend whether the company should accept the new business at the stipulated price or decline the new offer and make a concerted sales drive to sell the present unused capacity at the present selling price? The sales drive will cost ₹60,000 per year.

Ignore the financial charges on the cost of the equipment and assume there is no opening and closing inventories.

Variable costs will increase in direct proportion to the output. **[7]**

Answer:

4. **(a)** Units sold = Sales ÷ Selling Price per unit = ₹12,00,000 ÷ ₹40 = 30,000 units

Sales	40	12,00,000
Less: Variable cost	30	9,00,000
Contribution	10	3,00,000
Less: Profits		1,00,000
Fixed Cost		2,00,000

Hence, total fixed costs in the new case = ₹2,00,000 + ₹3,00,000 = ₹ 5,00,000
Contribution in the New Case = New Fixed Cost + Profits = 5,00,000 + 1,00,000 = ₹ 6,00,000
Since as per agreement the sale value is restricted to the old value that is ₹12,00,000
Hence P/V Ratio will be: = ₹6,00,000 ÷ ₹12,00,000 × 100 = 50%
The variable cost in the new case = ₹ 30 - ₹ 5 = ₹ 25
Variable Cost Ratio = 100 - P/V
Ratio = 100 - 50 = 50%
Computation of New Selling Price:
If VC is 50, then SP = ₹ 100
If VC is 1, then SP = 100 ÷ 50
If VC is 25, then SP = 100 ÷ 50 × 25

= ₹ 50 per unit

(b) Present Selling price = ₹15,00,000/15,000 units = ₹100 per unit

Present Cost Structure:	₹
Direct materials (30% of sales value)	4,50,000
Direct labour (20% of sales value)	3,00,000
Variable overheads (₹10 per unit)	1,50,000
	9,00,000
Contribution (₹ 15,00,000 - ₹9,00,000)	6,00,000
Profit (₹ 16.67% per unit)	2,50,000
Fixed Overheads	3,50,000

Comparative statement of the proposals (Revised cost basis)

Particulars	Present capacity	Maximum Capacity	Present plus 10,000 units
Units	15,000	20,000	25,000
Sales value (₹)	15,00,000	20,00,000	(15,00,00 + 9,00,000) = 24,00,000
Direct materials (33% on sales value)(₹)	4,95,000	6,60,000	4,95,000
(10/15 × ₹4,95,000)			(+) 3,30,000
Direct labour (25% on sales value) (₹)	3,75,000	5,00,000	3,75,000
(10/15 × 3,75,000)			(+) 2,50,000
Variable overhead (₹10 per unit)	1,50,000	2,00,000	2,50,000
Fixed overhead	3,50,000	3,50,000	3,50,000
	(+) 50,000	(+)50,000	(+)50,000
Sales drive Costs	-	60,000	-
Depreciation on new Equipment	-	-	1,00,000
Total costs	14,20,000	18,20,000	22,00,000
Profit	80,000	1,80,000	2,00,000

It will be advisable for the company not to accept the offer. The Company should instead to sell 20,000 units @ ₹100 per unit, since the acceptance of the offer will reduce the amount of profit.

5. Calculate Labour Variances from the following data:

Standard:

Number in the gang 80 Men and 40 Women

Wage Rate per hour: ₹45 for man and ₹40 for woman

Output per gang hour: 50 Units

Gang-hours in a five-day week: 40
Actual:
Number in the gang: 64 Men and 56 Women
Wage Rate per hour: ₹50 for a Man and ₹25 for a Woman
Actual gang hours paid for: 40
Actual gang hours worked: 39
Actual output: 2400 Units **[14]**

Answer:

Labour Cost Variance: Standard Labour Cost – Actual Labour Cost

Standard Labour Cost of 50 Units:
Men: 80 × 45 = ₹3,600
Women: 40 × 40 = ₹1,600
Total = ₹5,200

Standard Labour Cost of 2400 Units = 2400 × 5200 ÷50 = ₹2,49,600
Actual Labour Cost of 2400 Units:
Men: 64 × 40 × 50 = ₹1,28,000
Women: 56 × 40 × 25 = ₹56,000
Total = ₹1,84,000

Labour Cost Variance = ` (249600 – 184000) = ₹65,600 (F)
Labour Rate Variance = (SR – AR) x AH
Men: (45 –50) × (64 × 40) = ₹12,800 (A)
Women: (40 – 25) × (56 × 40) = ₹33,600 (F)
Total = ₹20,800 (F)

Labour Efficiency Variance = (SH – AHW) × SR;
AHW = Actual Hours Worked – Idle Hours

Standard hours (SH i.e., Actual Output in terms of standard hours):
Men Hours:
2400÷50 = 48 × 80 = 3,840
Woman Hours:
48 × 40 = 1920
Actual Hours paid (AH):
Men 40 × 64 = 2560 Hours
Women: 40 × 56 = 2240 Hours
Labour Efficiency Variance:
Men: (3840 – 2496) × ₹45 = ₹60,480 (F)

Women: (1920 – 2184) × ₹40 = ₹10,560 (A)

Total = ₹49,920 (F)

Labour Idle Time Variance = Idle Hours × SR

Men: 1 × 64 × 45 = ₹2880 (A)

Women: 1 × 56 × 40 = ₹2240 (A)

Total = ₹5120 (A)

Labour Mix Variance (LMV) = (RSH – AH) × SR

Actual Hours (AH) worked:

Men: 39 × 64 = 2,496 Hours

Women: 39 × 56 =2,184 Hours

Total = 4680 Hours

Revised Standard Hours (RSH) i.e. Standard Proportion (2:1) of 4,680 Hours

Men: (4680 × 2) ÷3 = 3,120 Hours

Women: (4680 × 1) ÷3 = 1,560 Hours

Labour Mix Variance:

For Men: (3,120 – 2,496) × `45 = ₹28,080 (F)

For Women: (1,560 – 2,184) × ` 40 = ₹24,960 (A)

Total = ₹3,120 (F)

Labour Yield Variance = Standard Labour Cost per unit (Actual Yield – Standard Yield)

= ₹104 (2,400 – 1,950) = ₹46,800 (F)

Standard Yield = (Total Actual Time excluding Idle Time ÷Total Standard Time) × Standard Output in units

= (4,680 ÷ 4,800) × 2,000

= 1,950 units

Standard Labour Cost per unit = ₹2,49,600÷2400 units = ₹104.

6. (a) Z Limited manufactures a standard product. The standard mix of it is:

Material X: 60% at ₹15 per kg.

Material Y: 40% at ₹10 per kg.

Normal loss in output is 20 percent of input due to shortage of material Y.

The actual results for May, 2023 were:

Material X: 210 kg at ₹16 per kg.

Material Y: 190 kg at ₹10.50 per kg.

Actual output: 330 kg.

You are required to calculate:

(i) Material Cost Variance

(ii) Material Price Variance

(iii) Material Usage Variance

(iv) Material Mix Variance

(v) Material Yield Variance. **[7]**

(b) Zee Co. Ltd. wishes to arrange overdraft facilities with its bankers from the period August to October 2022 when it will be manufacturing mostly for stock. Prepare a cash budget for the above period from the following data given below:

Month	Sales	Purchases	Wages	Manufacturing Exp.	Office Exp.	Selling Exp.
June	1,80,000	1,24,800	12,000	3,000	2,000	2,000
July	1,92,000	1,44,000	14,000	4,000	1,000	4,000
August	1,08,000	2,43,000	11,000	3,000	1,500	2,000
September	1,74,000	2,46,000	12,000	4,500	2,000	5,000
October	1,26,000	2,68,000	15,000	5,000	2,500	4,000
November	1,40,000	2,80,000	17,000	5,500	3,000	4,500
December	1,60,000	3,00,000	18,000	6,000	3,000	5,000

Additional Information:

(a) Cash on hand 1-08-2022 ₹25,000.

(b) 50% of credit sales are realized in the month following the sale and the remaining 50% in the second month following. Creditors are paid in the month following the month of purchase.

(c) Lag in payment of manufacturing expenses half month.

(d) Lag in payment of other expenses one month. **[7]**

Answer:

6. (a) Working notes:

1. Total SQ for Actual output= 330 × 100 ÷ 80 = 412.50 kg.
Standard Quantity for X = 412.50 × 60% = 247.50 kg.
Standard Quantity for Y = 412.50 × 40 % = 165.00 kg.

2. RSQ = Total Actual quantity × Standard proportion
Revised Standard Quantity for X = (210 + 190) = 400 × 60% = 240 kg. Revised Standard Quantity for Y = (210 + 190) = 400 × 40% = 160 kg.

3. Standard Yield (SY) by using actual quantity: 400kg × 80% = 320 kg.
Computation of Material Variances:

(i) Material Cost Variance = (SQ × SP) – (AQ × AP)
For material X: (247.5 × ₹15) – (210 × ₹16) = ₹3,712.50 – ₹3,360 = ₹352.50 (F)
For material Y: (165 × ` 10) – (190 × ` 10.50) = ₹1,650 – ₹1,995 = ₹345 (A)

Total Material Cost Variance = ₹7.50 (F)

(ii) Material Price Variance = AQ (SP – AP)
For X: 210 (₹15 – ₹16) = ₹210 (A)
For Y: 190 (₹10 – ₹10.50) = ₹95 (A)
Total Material Price Variance = ₹305 (A)

(iii) Material Usage Variance = SP (SQ – AQ)
For X: ₹15 (247.50 – 210) = ₹562.50 (F)
For Y: ₹10 (165 – 190) = ₹250.00 (A)
Total Material Usage Variance = ₹312.50 (F)

(iv) Material Mix Variance = SP (RSQ – AQ)
For X: ₹15 (240 – 210) = ₹450 (F)
For Y: ₹10 (160 – 190) = ₹300 (A)
Total Material Mix Variance = ₹150 (F)

(v) Material Yield Variance = Standard Cost per unit (SC) (AY – SY)
= ₹16.25 (330 – 320) = ₹162.50(F)

Standard Cost (SC) per unit = ₹16.25, calculated as under:
X: 247.50 × ₹15 = ₹3712.50
Y: 165 × ₹10 = ₹1650.00
₹5,362.50
Total Standard Cost for 330 units of output = ₹5362.50
Hence, SC per unit = ₹5362.50 ÷ 330 = ₹16.25

(b) CASH BUDGET

Particulars	August (₹)	September (₹)	October (₹)
Receipts:			
Opening balance	25,000	44,500	(66,750)
Sales [Note 2]	1,86,000	1,50,000	1,41,000
Total Receipts (A)	2,11,000	1,94,500	74,250
Payments:			
Purchases	1,44,000	2,43,000	2,46,000
Wages	14,000	11,000	12,000
Mfg. Exp. [Note 1]	3,500	3,750	4,750
Office Exp.	1,000	1,500	2,000
Selling Exp.	4,000	2,000	5,000

Total payments (B)	1,66,500	2,61,250	2,69,750
Closing Balance (A-B)	44,500	(66,750)	(1,95,500)

Notes to Solution:

1. Manufacturing Expense:

Particular	August (₹)	September (₹)	October (₹)
July (4000/2)	2,000	–	–
August (3000/2)	1,500	1,500	–
September (4500/2)	–	2,250	2,250
October (5000/2)	–	–	2,500
Total	3,500	3,750	4,750

2. Sales:

Particular	August (₹)	September (₹)	October (₹)
June (180000/2)	90,000	–	–
July (192000/2)	96,000	96,000	–
August (108000/2)	–	54,000	54,000
September (174000/2)	–	–	87,000
Total	1,86,000	1,50,000	1,41,000

7. (a) ABC Ltd. has provided the following data for the Financial Year ending 31.3.2024:

Liabilities	₹ In lakhs	Assets	₹ In lakhs
Share Capital	**1,000**	**Fixed Assets**	**3,000**
Reserve & Surplus	**2,000**	**Investments**	**150**
Long Term Debt	**200**	**Current Assets**	**100**
Trade Payables	**50**		
	3,250		**3,250**

Additional information provided is as follows:

Profit before Interest and Tax is : ₹1,000 lakhs

Interest is : ₹20 lakhs

Tax Rate : 35.875%

Risk Free Rate : 10%

Market Rate : 15%

Beta (β) factor : 1.4

Calculate the Economic Value Added. **[7]**

(b) A firm received an order to make and supply eight units of standard product which

involves intricate labour operations. The first unit was made in 10 hours. It is understood that this type of operations is subject to 80% learning rate. The workers are getting a wage rate of ₹12 per hour.

(i) What is the total time and labour cost required to execute the above order?

(ii) If a repeat order of 24 units is also received from the same customer, what is the labour cost necessary for the second order? [7]

Answer:

7. (a) Computation of Economic Value Added

Particulars	₹ In lakhs
Profit after taxes (as per Profit and Loss A/c W.N.5)	628.425
Add: Interest on long term borrowing adjusted net of tax (W.N.2)	12.825
Total return to Providers of funds	641.250
Less: Cost of Capital (WN 4)	(522.825)
Economic value Added	118.425

Working Notes:

1. Cost of Equity = Risk Free Rate + β Factor (Market Rate - Risk Free Rate)
   = 10% + 1.4 (15% - 10%)
   = 10% + 7%
   = 17%

2. Cost of Debt (post tax)

Particulars	₹ In lakhs
Interest	20.000
Less: Tax saving (20 × 35.875%)	(7.175)
Interest after tax savings	12.825

Cost of Debt = Interest on Long Term Debt ÷ Long Term Debts
= ₹12.825 Lakhs ÷ ₹200 Lakhs
= 6.4125%

3. Capital employed

Particulars	₹ In lakhs	₹ In lakhs
Share capital	1,000	
Reserves and Surplus	2,000	3,000
Long term Debts		200
Total Capital employed		3,200

4. Weighted Average Cost of Capital

Particulars		Weight × Cost %	WACC %
a	Cost of Equity	3,000/3,200 × 17% (WN 1)	15.9375
b	Cost of Debt	200/3,200 × 6.4125% (WN 2)	0.40078
c	WACC (a + b)		16.33828

5. Profit after Tax

Particulars	₹ In lakhs	₹ In lakhs
Profit before interest & tax	1,000	
Less: Interest	(20)	980.000
Less: Tax (980 × 35.875%)		351.575
Profit after Tax		628.425

(b) (i) 80% Learning Curve results are given below:

Production (Units)	Cumulative Average Time (hours)	Total Time (hours)
1	10	10
2	8	16
4	6.4	25.6
8	5.12	40.96
16	4.096	65.54
32	3.2768	104.86

Labour time required for first eight units = 40.96 hours

Labour cost required for 8 units = 40.96 hours × ₹ 12/hr. = ₹ 491.52

(ii) Labour time for 32 units = 104.86 hours Labour time for first eight units = 40.96 hours

Labour time required for 2nd order for 24 units = 63.90 hours (104.86 - 40.96)

Labour cost for 24 units = 63.90 hours × ₹12/hr. = ₹ 766.80

8. (a) The following information is available for a Company:

Sales Volume (units)	**Probability (%)**
10,000	**10**
12,000	**15**
14,000	**25**
16,000	**30**
18,000	**20**

Projected sales and costs are as under:

Sales Price per unit: ₹6;
Variable Cost per unit: ₹3.50;
Fixed Costs: ₹34,000 **[7]**

(b) List the characteristics of responsibility reporting. **[7]**

Answer:

8 **(a)** (i) Contribution per unit = ₹ 2.50 (₹ 6 - ₹ 3.50)

BEP (units) = Total Fixed Costs ÷ Contribution per unit
= ₹ 34,000 ÷ ₹ 2.50
= 13,600 units.

The probability that at least Break-even = 0.25 + 0.30 + 0.20 = 0.75 = 75%.

(ii) The Profit will be at least ₹ 10,000:
Then, BEP (units) = ₹34,000 + ₹10,000 ÷ ₹2.50 = 17,600 units.
The required Probability = 20%.

(b) The characteristics of responsibility reporting:

1. Reports should fit the organization chart, that is, the report should be addressed to the individual responsible for the items covered by it, who, in turn, will be able to control those costs under his jurisdiction. Managers must be educated to use the results of the reporting system.
2. Report should be prompt and timely. Prompt issuance of a report requires that cost records be organized so that information is available when it is needed.
3. Reports should be issued with regularity. Promptness and regularity are closely tied up with the mechanical aids used to assemble and issue reports.
4. Reports should be easy to understand. Often they contain accounting terminology that managers with little or no accounting training find difficult to understand, and vital information may be incorrectly communicated. Therefore, accounting terms should be explained or modified to fit the user. Top management should have some knowledge of the kind of items chargeable to an account as well as the methods used to compute overhead rates, make cost allocations and analyze variances.
5. Reports should convey sufficient but not excessive details. The amount and nature of the details depend largely on the management level receiving the report. Reports to management should neither be flooded with immaterial facts nor so condensed that management lacks vital information essential to carrying out its responsibilities.
6. Reports should give comparative figures, i.e., a comparison of actual with budgeted figures or of predetermined standards with actual results and the isolation of variances.
7. Reports should be analytical. Analysis of underlying papers, such as time tickets, scraps

tickets, work orders, and materials requisitions, provide reasons for poor performance which might have been due to power failure, machine breakdown, an inefficient operator, poor quality of materials, or many other similar factors.

8. Reports for operating management should, if possible, be stated in physical units as well as in terms of money since monetary information may give a foreman not trained in the language of the accountant a certain amount of difficulty.
9. Reports may tend to highlight departmental efficiencies and inefficiencies, results achieved future goals or targets.