Scanner Appendix

CMA Inter Gr. II

(Solutions of June - 2024)

Paper - 12 : Management Accounting

Chapter - 1 : Introduction to Management Accounting

2024 - June [2] (a)

Basis for Comparison	Financial Accounting	Management Accounting
Purpose	Financial Accounting classifies, analyses, records, and summarizes the financial transactions of a particular period of the company.	Management accounting helps management make effective decisions about the business.
Application	Financial accounting is to reflect true and fair picture of financial affairs.	Management accounting helps management to take meaningful steps and Strategies.
Scope	The Scope is pervasive, but not as much as the management accounting.	The Scope is much broader.
Information Type	Quantitative	Quantitative and qualitative.

Inter Dependence	It is not dependent on management accounting	Management accounting is basically decision-making accounting and depends on information created by Financial Accounting as well as Cost Accounting.
Statutory Requirement	It is legally mandatory to prepare financial accounts of all companies. (For example, in the Indian Context Companies Act, 2013, relevant rules of accounting standards furnishes the statutory requirements)	Management accounting has no statutory requirement.
Format	Financial accounting has specific formats for presenting and recording information.	There's no set format for presenting information in management accounting.
Users	Mainly for potential investors as well as all stakeholders.	Only for Management.
Verifiable	The information presented is verifiable.	The information presented is predictive and not immediately verifiable.

Chapter - 2 : Activity Based Costing

2024 - June [2] (b)

(i) **Calculation of Cost Driver Rates:**

Particulars		₹
Material Procurement	(11,60,000 ÷ 2,200)	527
Material Handling	(5,00,000 ÷ 1,360)	368

Maintenance	(19,40,000 ÷ 16,800)	115
Setup Cost	(8,30,000 ÷ 1,040)	798
Quality Control	(3,52,000 ÷ 1,800)	196
Machinery	(14,40,000 ÷ 48,000)	30

(ii) **Calculation of Cost of Component AXL6 Batch using ABC:**

Particulars		₹
Direct Material Cost		2,60,000
Direct Labour Cost		4,90,000
Material Procurement Cost	(527 × 52)	27,404
Material Handling Cost	(368 × 36)	13,248
Setup Cost	(798 × 50)	39,900
Maintenance Cost	(115 × 1,380)	1,58,700
Quality Control Cost	(196 × 56)	10,976
Machinery	(30 × 3,600)	1,08,000
Total Cost		11,08,228

Chapter - 3 : Marginal Costing and its Applications in Short Term Decision Making

2024 - June [3]

(i) Quantity of Each Product to be Manufactured/Purchased (Product Mix)

Particulars	**Machine Hours**	**Quantity**
Manufacturing Bonbon	5,000	10,000
Manufacturing Zimzam	1,000	667
Purchase of Zimzam	Nil	3,000

Working Notes:

Hours per Unit for Zimzam = $\frac{\text{Variable Machine Operating Cost}}{\text{Machine Hours Rate}}$

= $\frac{150}{100}$ = 1.5 hours per unit

Hours per Unit for Bonbon = $\frac{50}{100}$ = 0.5 hrs per unit

Total Hours Available = 4,000 Units × 1.5	=	6,000 hours
(–) Hours Utilized for Bonbon (10,000 × 0.5)	=	5,000 hours
Hours Available for Zimzam		1,000 hours

Number of Units of Zimzam to be Manufactured = $\frac{1,000}{1.5}$ = 667 Units

(ii) Total Profit of M/s Posco Ltd. under (i) above
= ₹ 25,26,500 (As per ICNAI suggested)
There is conflict in question about selling & distribution expenses. There is many assumption that we can apply & solve the question.
Alternative I: In the absence of information about Fixed S & D overhead, we can ignore it.

Calculation of Contribution

	Manufacture Zimzam	Purchase Zimzam	Manufacture Bonbon
Variable Cost			
Direct Material	100	Nil	300
Variable Machine Operating Cost	150	Nil	50
Other Factory Overhead	180	Nil	50
Variable S&D	80	60	70
Purchase Cost	Nil	620	Nil
	510	680	470
Selling Price	700	700	700
Contribution per Unit	190	20	230
Hours Per Unit	1.5	Nil	0.5

Contribution Per Hours	126.67	Nil	460
	II		I
	(667 × 190)	(3,000 × 20)	(10,000 × 230)
Contribution	1,26,730	60,000	23,00,000
Total contribution			24,86,730
(–) Fixed factory overhead			2,40,000
Total Profit			22,46,730

Assumption: Fixed factory overhead are not included in other factory overhead cost.

If we assume fixed factory overhead are included in other factory overhead then profit will be ₹ 24,86,730.

2024 - June [4] (a)

Answer:

Sales Units	20,000
Variable Cost	20
Profit per Unit	4
Fixed Overhead	₹ 3,20,000

Total Contribution = Fixed Cost + Profit

= 3,20,000 + 4 × 20,000

= 4,00,000

Contribution per Unit = $\frac{4,00,000}{20,000}$ = ₹ 20

Selling Price = VC + C per Unit

= 20 + 20

= ₹ 40

P/V Ratio = $\frac{\text{C per unit}}{\text{S per unit}} = \frac{20}{40} = 50\%$

(i) Break-Even Point (BEP) in Units = $\frac{\text{Fixed cost}}{\text{C per unit}}$

= $\frac{3,20,000}{20}$ = 16,000 units

Margin of Safety Sales

I $= \frac{\text{Profit}}{\text{P/V Ratio}} = \frac{4 \times 20{,}000}{50\%} =$ ₹ 1,60,000

II (Total Sales – BEP sales) × Selling Price
(20,000 – 16,000) × 40 = ₹ 1,60,000

(ii) Margin of Safety if Profit is ₹ 64,000
In Amount

I $= \frac{\text{Profit}}{\text{P/V Ratio}} = \frac{64{,}000}{50\%} =$ ₹ 1,28,000

In Units

II $\frac{\text{Profit}}{\text{C Per Unit}} = \frac{64{,}000}{20} =$ 3,200 Units

(iii) If Selling Price is Reduced by 10%
then New Selling Price = 40 × 90% = ₹ 36 per unit
If demand is expected to increase by 5,000 units,
then units to be sold = 20,000 + 5,000 = 25,000

Selling Price (SP)	36		
Variable Cost (VC)	20		
Contribution per Unit	16	P/V Ratio = $\frac{16}{36} = \frac{4}{9}$	
Total Contribution		(25,000 × 16) =	4,00,000
Less: Fixed cost			3,20,000
Profit			80,000

Break-Even Point (BEP) in Units = $\frac{\text{FC}}{\text{C per unit}}$

$= \frac{80{,}000}{16} =$ 20,000 Units

MOS $= \frac{\text{Profit}}{\text{P/V Ratio}}$

$= \frac{80{,}000}{4/9} = \frac{80{,}000}{4} \times 9$

= ₹ 1,80,000

Thus, BEP is increased by 4,000 units and MOS is also increased by ₹ 20,000 in case of reduction in selling price.

2024 - June [4] (b)

Statement Showing Computation of Profitability & Comparison Between Alternatives:

Particulars		W.N.	Alternative I (Present 80% Capacity)	Alternative II (Foreign 50% + Domestic 50%) = 100% Capacity	Alternative III (80% Domestic + 50% Foreign) = 130% Capacity
Sales: Domestic		1	48,00,000	30,00,000	48,00,000
Export		2	Nil	27,00,000	27,00,000
	(A)		48,00,000	57,00,000	75,00,000
Variable Cost					
Direct Material		3	15,00,000	18,75,000	24,37,500
Direct Wages		4	6,00,000	7,50,000	9,75,000
Variable Overheads		5	3,00,000	3,75,000	4,87,500
Additional Overtime Cost		6	Nil	Nil	75,000
Total Variable Cost	(B)		24,00,000	30,00,000	39,75,000
Contribution (A - B)	(C)		24,00,000	27,00,000	35,75,000
Fixed Cost	(D)	7	19,00,000	19,00,000	20,50,000
Profit (C - D)			5,00,000	8,00,000	14,75,000

Working Notes:

1. Sales at 80% Capacity = 48,00,000

   Sales at 100% Capacity = $48,00,000 \times \frac{100}{80} = 60,00,000$

   Sales at 50% Capacity = $48,00,000 \times \frac{50}{80} = 30,00,000$

2. Sales Revenue at 50% Capacity for Export Sales
   = 30,00,000 – 10% = 27,00,000

3. Direct Material at 80% Capacity = 15,00,000

   Direct Material at 100% Capacity = $15,00,000 \times \frac{100}{80}$

   = 18,75,000

   Direct Material at 130% Capacity = $15,00,000 \times \frac{130}{80}$

   = 24,37,500

4. Direct Labour at 80% Capacity = 6,00,000

   Direct Labour at 100% Capacity = $6,00,000 \times \frac{100}{80} = 7,50,000$

   Direct Labour at 130% Capacity = $6,00,000 \times \frac{130}{80} = 9,75,000$

5. Variable Overhead at 80% Capacity = 3,00,000

   Variable Overhead at 100% Capacity = $3,00,000 \times \frac{100}{80} = 3,75,000$

   Variable Overhead at 130% Capacity = $3,00,000 \times \frac{130}{80} = 4,87,500$

6. Additional Overtime Cost = $6,00,000 \times \frac{20\%}{80\%} \times \frac{1}{2} = 75,000$

7. Fixed Overhead at 80% Capacity = 19,00,000
   Fixed Overhead at 100% Capacity = 19,00,000
   Fixed Overhead at 130% Capacity = 19,00,000 + 1,50,000
   = 20,50,000

Suggestion:

It reveals from the comparative analysis that Alternative III, i.e., 80% capacity for the domestic sales and 50% capacity for export sales is the best as it would give highest profit (₹ 1,47,50,000).

Chapter - 5 : Standard Costing and Variance Analysis

2024 - June [6] (a)

(i) Calculation of Standard Variable Overhead Rate & Fixed Overhead Rate Per Hour

Variable Overhead for 12,000 Units	
= 12,000 × 15	1,80,000
Budgeted Hours	60,000
Variable Overhead Rate per hours $\left(\frac{1,80,000}{60,000}\right)$	₹ 3 per hours
Fixed Overhead for the Budget	60,000
Budgeted Hours	60,000
Fixed Overhead Standard Rate per hours $\left(\frac{60,000}{60,000}\right)$	₹ 1 per hour

Working Notes:

(a) Variable Overhead Rate per Unit $= \frac{\text{Difference in Total Overhead}}{\text{Difference in Units}}$

$= \frac{2,10,000 - 1,80,000}{10,000 - 80,000}$

= ₹ 15 per Units

(b) Fixed Overhead = Total Overhead - Variable Overhead
= 2,10,000 - 15 × 10,000 Units
= 2,10,000 - 1,50,000
= ₹ 60,000

(c) Budgeted Hours = Budget Production × Hours per Unit
= 12,000 × 5
= 60,000

$$\text{Budget Hours per Unit} = \frac{\text{Standard Overhead Absorption Rate}}{\text{Standard Rate per hours}}$$

$$= \frac{20}{4}$$

= 5 hours per Unit

(ii) Variable Overhead Efficiency Variance

Standard time for actual production × SR per hour - Actual hours × SR per hour

= (15,560 × 5) × 3 - 74,000 × 3

= 11,400 F

Variable Overhead Expenditure Variance

= Actual Hours × SR - Actual Variable Overhead

= 74,000 × 3 - (2,95,000 - 62,500)

= 10,500 A

(iii) Fixed Overhead Efficiency Variance

= Standard Rate per hour × (Standard hrs. for actual production - Actual hours)

= 1 (77,800 - 74,000)

= 3,800 F

Fixed Overhead Capacity Variance

= Standard Rate per hour × (Actual hours - Budgeted hours)

= 1 (74,000 - 50,000)

= 14,000 F

Working Note:

Standard hours for actual production

Standard hours per hour × Actual output units

= 5 × 15,560

= 77,800

Chapter - 6 : Forecasting, Budgeting and Budgeting Control
2024 - June [5]
Cash Budget for Three Months Ending 30th June, 2024:

Particulars	W.N.	April	May	June
Receipts				
Opening Balance		2,70,000	1,46,823	13,063
Cash Sales	1	1,68,069	1,50,370	2,41,206
Receipts from Debtors / Collection from Credit Sales	2	9,05,945	6,17,423	13,55,786
Total Receipts (A)		13,44,014	9,14,616	16,10,055
Payments				
Direct Material	3	4,87,566	3,02,524	2,70,666
Direct Labour	3	2,43,782	1,51,262	1,35,333
Factory Overhead	3	65,842	47,767	58,737
Fixed Cost	4	4,00,000	4,00,000	4,00,000
Factoring Commission (9,64,824 × 2%)		Nil	Nil	19,296
Total Payments (B)		11,97,191	9,01,553	8,84,032
Closing Balance of Cash (A - B)		1,46,823	13,063	7,26,023

Working Note:

1. **Computation of Cash Sales & Credit Sales:**

Month	**Product X**		**(Units)**	**Product Y**		**(Units)**	**Sales**		
	East Division	North East Division	Total Units @ 95	East Division	North East Division	Total Units @ 85	Total Sales (C × 95) + (F × 85)	Cash Sales 20% of G	Credit Sales 80% of G
Expected Increase	5%	10%		10%	6%				
in units	(A)	(B)	A + B = C	(D)	E	D + E = F	(G)	(H)	I
March	3,150	3,850	7,000	4,400	3,710	8,110	13,54,350	2,70,870	10,83,480
April	2,625	2,640	5,265	2,200	1,802	4,002	8,40,345	1,68,096	6,72,276
May	2,520	2,200	4,720	1,980	1,590	3,570	7,51,850	1,50,370	6,01,480
June	3,150	3,740	6,890	3,520	2,968	6,488	12,06,030	2,41,206	9,64,824

2. **Computation of Collection From Debtors:**

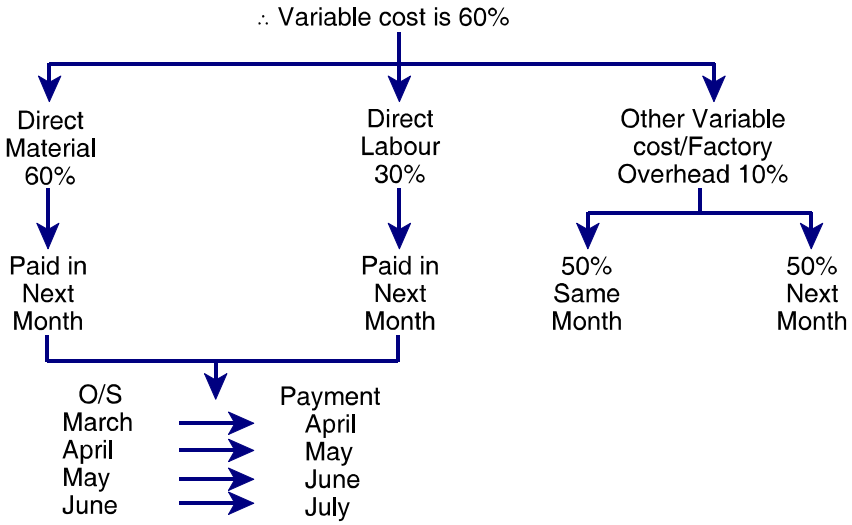
Month	March	April	May	June	Total
Total Sales:					
Credit Sales 80%	10,83,480	6,72,276	6,01,480	9,64,282	
Bad Debts 5%	54,174	33,614	30,074	Nil	
Collection in the Month of:					
March	3,25,044	Nil	Nil	Nil	
April	7,04,262	2,01,683	Nil	Nil	9,05,945
May		4,36,979	1,80,444	Nil	6,17,423
June			3,90,962	9,64,824	13,55,786

Note: June month credit sales are realized in same month.

3. **Computation of Components of Cost:**

Month	Sales	P/V Ratio	VC	VC	DM (60%)	DL (30%)	VC (10%)
March	13,54,350	40%	60%	8,12,610	4,87,566	2,43,782	81,262
April	8,40,345	40%	60%	5,04,207	3,02,524	1,51,262	50,421
May	7,51,850	40%	60%	4,51,110	2,70,666	1,35,333	45,111
June	12,06,030	40%	60%	7,23,618	4,34,171	2,17,085	72,362

Since P/V ratio is 40%,



4. Fixed Cost 50,00,000
   (–) Depreciation 2,00,000
   Cash Fixed Costs 48,00,000

   Monthly Fixed Costs = $\frac{48,00,000}{12}$ = 4,00,000

2024 - June [6] (b)

(i) **Production Budget (in Units) for the Month of January to April:**

Particulars	Jan	Feb	March	April
Closing Stock	1,500	1,750	1,875	2,000
(+) Sales	5,000	6,000	7,000	7,500
(-) Opening Stock	1,200	1,500	1,750	1,875
Production Required	5,300	6,250	7,125	7,625

(ii) **Purchase Budget for Batteries (in Units) for January to March:**

	Jan	Feb	March
Gadgets to be Produced (A)	5,300	6,250	7,125
(+) 30% of Gadgets to be Produced in Next Month (B) (i.e., Closing Stock)	1,875 (6,250 × 30%)	2,137.5 (7,125 × 30%)	2,287.5 (7,625 × 30%)
C = A + B	7,175	8,387.5	9,412.5
No. of Units Required (C × 2)	14,350	16,775	18,825
(-) Opening Stock (B × 2)	3,250	3,750	4,275
No. of Units to be Purchased	11,100	13,025	14,550

Chapter - 7 : Divisional Performance Measurement

2024 - June [7] (a)

Computation of Economic Value Added (EVA):

Particulars	Amount
Profit After Tax (PAT)	25,41,000
(+) Interest on 12% debt (Net of Tax) (10,00,000 × 12% × 70%)	84,000
Total Return to Providers of Fund	26,25,000
(-) Cost of Capital Employed (50,00,000 × 16%)	8,00,000
Economic Value Added (EVA)	18,25,000

Working Note:

1. **Calculation of Profit:**

P/V Ratio = 20%, Fixed Cost (FC) = 25,00,000, Margin of Safety (MOS) = 60%

$$\text{Break-Even Point (BEP)} = \frac{\text{FC}}{\text{P/V Ratio}}$$

$$\text{BEP} = \frac{25,00,000}{20\%}$$

BEP = 1,25,00,000

MOS Sales = Sales - BEP

If MOS = 60% ∴ BEP = 40%

$$MOS = \frac{1,25,00,000}{40} \times 60 = 1,87,50,000$$

Profit on MOS = 1,87,50,000 × 20% = 37,50,000

2. **Calculation of Profit After Tax:**

Option I:

Profit	37,50,000
(-) Interest (10,00,000 × 12%)	1,20,000
	36,30,000
(-) Tax 30%	10,89,000
Net Profit After Tax	25,41,000
Option II:	
Profit Before Tax	37,50,000
(-) Tax 30%	11,25,000
Operating Profit After Tax	26,25,000

3. **Calculation of Weighted Average Cost of Capital (WACC):**

Particulars	Calculation
Cost of Debt (Kd) = Interest × (1 – Tax Rate)	12% × (1 - 0.30) = 8.4%
Cost of Equity (Ke) = Risk Free Rate + (Beta × Market Risk Premium)	8%+1.1(17-8) =17.9%
Debt-Equity Ratio (Given in Question)	1 : 4 or 20% & 80%
WACC = K_d × Debt % + K_e × Equity %	=(8.4 × 20%) + (17.9 × 80%) =16%

4. Cost of Capital Employed = Capital Employed × WACC
   = 50,00,000 × 16% = 8,00,000
5. Capital Employed

Equity Share Capital	25,00,000
Reserves & Surplus	15,00,000
12% Bond	10,00,000
Capital Employed	50,00,000

2024 - June [7] (b)

(i) **Calculation of Total Cost per Unit of 1st Order of (30 Units):**

Particulars		₹
Direct Material		60.00
Direct Labour	(6 × 23.84)	143.04
Variable Overhead	(2 × 23.84)	47.68
Fixed Overhead	(5 × 23.84)	119.20
		369.92 or 370

(ii) **Calculation of Total Cost & Selling Price (SP) per Unit for Next Order of 40 Units:**

Particulars		₹
Direct Material		60.0
Direct Labour	(6 × 18.8)	112.8
Variable Overhead	(2 × 18.8)	37.6
Fixed Overhead	(5 × 18.8)	94.0
Total Cost per Unit		304.4
(+)Profit 25% of Cost or 20% of Selling Price		76.1
Selling Price per Unit		380.5 or 380

Working Note:

1. Calculation of Fixed Overhead Rate per Hour

Total Man Hours	(10×25×8)	2,000
(-) Down Time	25%	500
		1,500
Fixed Overhead per Month		7,500

Fixed Overhead Rate = $\frac{7,500}{1,500}$ = ₹ 5 per hours

2. Time Taken to Produce 30 Units
   - $= ax^6$
   - $= 40(30)^{-0.152}$
   - $= 40 \times 0.596$
   - = 23.84 per unit (Average Time)
3. Time Take to Produce 40 Units
   - $y = ax^6$

   For 70 units = $Y= 40(70)^{-0.152}$
   - $= 40 \times 0.524$
   - = 20.96 per unit (Average Time)

Total Time for 70 Units = 70 × 20.96	=	1,467.2 hours
Total Time for 30 Units =30 × 23.84	=	715.2 hours
Total Time for 40 Units from 31 to 70 units	=	752 hours

Average Time for Next 40 Units = $\frac{752}{40}$ = 18.8 per units

Chapter - 8 : Responsibility Accounting

2024 - June [8] (b)

Responsibility Centre:

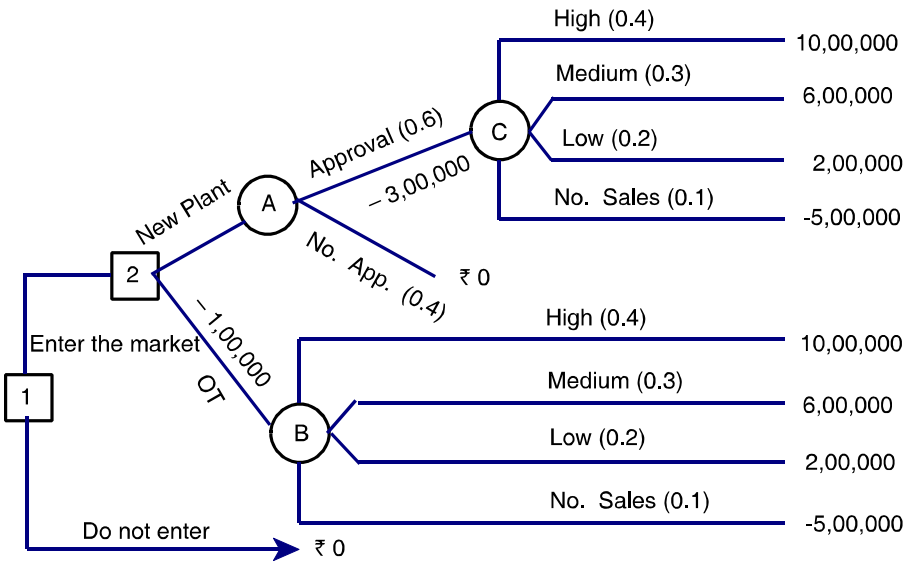
A Responsibility Centre may be defined as an area of responsibility which is controlled by an individual. A responsibility centre is an activity such as department over which a manager exercises responsibility. Responsibility Centre may be departments, product lines, territories or any other type of identifiable unit or combination of units. All costs relating to the centre are collected and the manager responsible for such a cost centre judged by reference to the activity levels achieved in relation to costs. Even an individual machine may be treated as responsibility centre for cost control and cost reduction.

There are four types of Responsibility Centre are commonly identified. These are:

1. **Cost or Expense Centre:** The most elementary form of Responsibility Centre is the cost Centre, which itemizes all of the expenses incurred to run a specified function, but ignores the cost of capital involved in it, as well as any associated returns. A Cost Centre is an organizational unit whose manager has the authority only to incur costs and is specifically evaluated on the basis of how cost are controlled. The objective of Cost Centre is the control over the incurrence of expenses. Cost Centres managers are responsible for cost only.
2. **Profit Centre:** A Profit Centre is an organizational unit whose manager is responsible for generating revenues and managing expenses related to current activity. Thus, Profit Centre should be independent organizational unit whose managers have the ability to obtain resources at the most economical prices. The objective of Profit Centre is to maximise the Centre's profit. Profit Centres managers are responsible for both costs and revenues.
3. **Revenue Centre:** A Revenue Centre is strictly defined as an organizational unit that is responsible for generation of revenues and has no control over selling price or budgeting cost. It is a distinct operating unit of a business that is responsible for generating sales and is judged solely on its ability to generate sales; it is not judged on the amount of costs incurred. Revenue centers are employed in heavily sales focused organizations.
4. **Investment Centre:** An investment Centre is an organizational unit whose manager is responsible for managing revenues and current expenses. An investment center is a center that is responsible for its own revenues, expenses and assets and manages its own financial statements which are typically a balance sheet and an income statement.

Chapter - 9 : Decision Theory

2024 - June [8] (a)



EMV of chance node C = ₹ 5,70,000
EMV of node B = ₹ 5,70,000
EMV of node A = ₹ 1,62,000
EMV of decision node 2 = New plant: ₹ 1,62,000
Overtime: = ₹ 4,70,000
EMV of decision node 1 = Enter Market = ₹ 4,70,000 (Max.) and pay overtime
Do not enter market = ₹ 00

Suggestion:

Since EMV of Decision Node – 1 (₹ 4,70,000) is maximum the company should enter the market and pay overtime wage.

Chapter - 10 : Objective Questions

2024 - June [1] {C}

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

Shuchita Prakashan (P) Ltd.
B-45/141 Street No. 5,
Guru Nanak Pura Laxmi Nagar,
Delhi - 110092
Visit us : www.scanneradda.com