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CA INTERMEDIATE N'19

SUBJECT- COSTING

Test Code – CIM 8445

BRANCH - () (Date :)

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ANSWER -1

ANSWER -A

(i) Efficiency Ratio:

$$= \frac{\text{Standard Hrs}}{\text{Actual Hrs}} \times 100 \qquad = \frac{8{,}800 \text{ hours}}{7{,}500 \text{ hours}} \times 100 \qquad = \mathbf{117.33\%}$$

(ii) Activity Ratio:

$$= \frac{\text{Standard Hrs}}{\text{Budgeted Hrs}} \times 100 \qquad = \frac{8{,}800 \text{ hours}}{8{,}000 \text{ hours}} \times 100 \qquad = \mathbf{110\%}$$

(iii)Standard Capacity Usage Ratio:

$$= \frac{\text{Budgeted Hours}}{\text{Max. possible hours in the budgeted period}} \times 100$$

$$= \frac{8{,}000 \text{ hours}}{9{,}600 \text{ hours}} \times 100 = \mathbf{83.33\%}$$

(iv)Actual Capacity Usage Ratio:

$$= \frac{\text{Actual Hours worked}}{\text{Max. possible working hours in a period}} \times 100$$

$$= \frac{7{,}500 \text{ hours}}{9{,}600 \text{ hours}} \times 100 = \mathbf{78.125\%}$$

(v) Actual Usage of Budgeted Capacity Ratio:

$$= \frac{\text{Actual working Hours}}{\text{Budgeted Hours}} \times 100 \qquad = \frac{7{,}500 \text{ hours}}{8{,}000 \text{ hours}} \times 100 = \mathbf{93.75\%}$$

Working Notes:

1. Maximum Capacity in a budget period
   = 60 Employees × 8 Hrs. × 5 Days × 4 Weeks = 9,600 Hrs.
2. Budgeted Hours (Hrs)
   = 50 Employees × 8 Hrs. × 5 Days × 4 Weeks = 8,000 Hrs.
3. Actual Hrs. = 7,500 Hrs. (given)
4. Standard Hrs. for Actual Output = 8,800 Hrs.

(5 MARKS)

ANSWER –B

Economic Batch Quantity (EBQ) = $\sqrt{\frac{2DS}{C}}$

Where, D = Annual demand for the product

S = Setting up cost per batch

C = Carrying cost per unit of production

(i) Computation of EBQ :

$$= \sqrt{\frac{2 \times 19,00,000 \times ₹5,200}{₹1.5}}$$

= 1,14,775 bottles

(ii) Computation of savings in cost by adopting EBQ:

Batch Size	No. of Batch	Set-up cost	Carrying cost	Total Cost
1,60,000 bottles	12	62,400 (₹5,200 × 12)	1,20,000 (₹1.5 × ½ × 1,60,000)	1,82,400
1,14,775 bottles	17	88,400 (₹5,200 × 17)	86,081.25 (₹1.5 × ½ × 1,14,775)	1,74,481.25
Saving				7,918.75

(5 MARKS)

ANSWER –C

Working Notes:

(a) Annual purchase quantity for material X and Y:

Annual demand for product M- 20,000 units × 4 = 80,000 units

Particulars	Mat-X	Mat-Y
Quantity required for per unit of product M	3 kg.	4 kg.
Net quantity for materials required	2,40,000 kg.	3,20,000 kg.
Add: Loss in transit	-	6,881 kg.
Add: Loss in process	10,000 kg.	17,204 kg.
Purchase quantity	2,50,000 kg.	3,44,085 kg.

Note - Input credit on GST paid is available; hence, it will not be included in cost of material.

Calculation of cost per kg. of material X and Y:

Particulars	Mat-X	Mat-Y
Purchase quantity	2,50,000 kg.	3,44,085 kg.
Rate per kg.	Rs.140	Rs.640
Purchase price	Rs.3,50,00,000	Rs.22,02,14,400
Add: Freight	0	Rs.9,80,000*
Total cost	Rs.3,50,00,000	Rs.22,11,94,400
Net Quantity	2,40,000 kg.	3,20,000 kg
Cost per kg.	Rs.145.83	Rs.691.23

$$*\text{No. of trucks} = \frac{3,44,085\,\text{kg.}}{10\,\text{ton} \times 1,000} = 34.40 \text{ trucks or } 35 \text{ trucks}$$

Therefore, total freight = 35 trucks × ₹28,000 = ₹9,80,000

(ii) Calculation of Economic Order Quantity (EOQ) for Mat.-X and Y:

$$EOQ = \sqrt{\frac{2 \times \text{Annual Requirement} \times \text{Order cost}}{\text{Carrying cost per unit p.a.}}}$$

Particulars	Mat-X	Mat-Y
Annual Requirement	2,50,000 kg.	3,44,085 kg.
Ordering cost	0	₹28,000
Cost per unit	₹145.83	₹691.23
Carrying cost	15%	15%
Carrying cost per unit p.a.	0*	₹103.68
EOQ	0	13,632.62 kg.

(5 MARKS)

ANSWER –D

(i) Statement Showing Joint Cost Allocation to 'Cromex'

Particulars	Cromex (Rs.)
Sales (Rs. 40 × 2,000 units)	80,000
Less: Post Split Off Costs (4,000+18,000+6,000)	(28,000)
Less: Estimated Profit (Rs. 5 × 2,000 units)	(10,000)
Joint cost allocable	**42,000**

(ii) Statement Showing Product Wise and Overall Profitability

Particulars	Bomex (Rs.)	Cromex (Rs.)	Total (Rs.)
Sales	2,00,000	80,000	2,80,000
Less: Share in Joint Expenses	**(1,38,000)***	(42,000)	(1,80,000)
Less: Post Split Off Costs	(36,000)	(28,000)	(64,000)
Profit	**26,000**	**10,000**	**36,000**

(*) 1,80,000 – 42,000

(5 MARKS)

ANSWER -2

ANSWER -A

GVL Ltd.
Contract A/c

(April 1, 2018 to March 31, 2019)

Particulars	Amount (Rs.)	Particulars	Amount (Rs.)
To Materials Issued	18,24,000	By Plant returned to Stores (Working Note 1)	2,40,000
To Labour 12,20,000		By Materials at Site	1,20,000
Add: Outstanding 96,000	13,16,000	By W.I.P.	
To Plant Purchased	9,00,000	Certified 51,00,000	
To Expenses 4,00,000		Uncertified 1,60,000	52,60,000
Less: Prepaid 90,000	3,10,000	By Plant at Site (Working Note 2)	4,80,000
To Notional Profit	17,50,000		
	61,00,000		61,00,000

(5 MARKS)

GVL Ltd.

Contract A/c

(April 1, 2018 to September 30, 2019)

(For Computing estimated profit)

Particulars	Amount (Rs.)	Particulars	Amount (Rs.)
To Materials Issued (Rs. 18,24,000 + Rs.32,56,000)	50,80,000	By Material at Site	3,00,000
To Labour Cost (Rs.12,20,000 + Rs.96,000 + Rs.14,24,000* + Rs.1,50,000)	28,90,000	By Plant returned to Stores on 31.03.2019.	2,40,000
To Plant purchased	9,00,000	By Plant returned to Stores on 30.09.2019 (Working Note 3)	4,32,000
To Expenses (Rs.3,10,000 + Rs.7,90,000 + Rs.1,00,000)	12,00,000	By Contractee A/c	1,08,50,000
To Estimated profit	17,52,000		
	1,18,22,000		1,18,22,000

* Labour paid in 2019-20: Rs.15,20,000 – Rs.96,000 = Rs.14,24,000

(5 MARKS)

Working Notes

	(Rs.)
1. **Value of the Plant returned to Stores on 31.03.2019**	
Historical Cost of the Plant returned	3,00,000
Less: Depreciation @ 20% of WDV for one year	(60,000)
	2,40,000
2. **Value of Plant at Site 31.03.2019**	
Historical Cost of Plant at Site (Rs.9,00,000 – Rs.3,00,000)	6,00,000
Less: Depreciation @ 20% on WDV for one year	(1,20,000)
	4,80,000
3. **Value of Plant returned to Stores on 30.09.2019**	

	Value of Plant (WDV) on 31.3.2019	4,80,000
	Less: Depreciation @ 20% of WDV for a period of 6 months	(48,000)
		4,32,000
4.	**Expenses Paid for the year 2018-19**	
	Total expenses paid	4,00,000
	Less: Pre-paid at the end	(90,000)
		3,10,000

ANSWER –B

(i) Cost Sheet of M/s Areeba Pvt. Ltd. for the year 2019.

Normal Capacity: 36,000 units p.a.

Particulars	**3 Months 4,500 Units**		**9 Months 21,600 units**	
	Amount (Rs.)	**Cost per unit (Rs.)**	**Amount (Rs.)**	**Cost per unit (Rs.)**
Direct material	1,80,000		8,64,000	
Less: Scrap	(22,500)		(1,08,000)	
Materials consumed	1,57,500	35	7,56,000	35
Direct Wages	1,44,000	32	6,48,000	30
Prime Cost	**3,01,500**	67	**14,04,000**	65
Factory overheads:				
- Fixed	90,000		2,70,000	
- Variable	45,000		2,16,000	
- Semi variable	27,000	36	1,51,200	29.50
Works Cost	**4,63,500**	103	**20,41,200**	94.50
Add: Administrative overheads	1,29,600	28.80	3,88,800	18
Cost of Production	**5,93,100**	131.80	**24,30,000**	112.5
Selling Overheads	36,000	8	1,72,800	8
Cost of Sales	**6,29,100**	139.80	**26,02,800**	120.5

(5 MARKS)

Working Notes:

1. Calculation of Costs

Particulars	4,500 units	21,600 units
	Amount (₹)	Amount (₹)
Material	1,80,000 (₹ 40 × 4,500 units)	8,64,000 (₹40 × 21,600 units)
Wages	1,44,000 (Max. of ₹ 30 × 4,500 units = ₹1,35,000 and ₹ 48,000 × 3 months = ₹1,44,000)	6,48,000 (21600 Units×30)
Variable Cost	45,000 (₹10 × 4,500 units)	2,16,000 (₹10 × 21,600 units)
Semi-variable Cost	27,000 ($\frac{₹1,08,000}{12 \text{ Months}}$ ×3 Months)	1,51,200[($\frac{₹ 1,08,000}{12 \text{ Months}}$ ×9 Months)
		+46,800(for 20 % increase) +23,400(for 10% increase)
Selling Overhead	36,000 (Rs.8 × 4,500 units)	1,72,800(Rs. 8 × 21,600 units)

Notes:

1. Alternatively scrap of raw material can also be reduced from Work cost.
2. Administrative overhead may be treated alternatively as a part of general overhead. In that case, Works Cost as well as Cost of Production will be same i.e. Rs. 4,63,500 and Cost of Sales will remain same as Rs. 6,29,100.

(ii) Calculation of Selling price for nine months period

Particulars	**Amount (Rs.)**
Total Cost of sales Rs. (6,29,100 + 26,02,800)	32,31,900
Add: Desired profit	8,76,600
Total sales value	41,08,500
Less: Sales value realised in first three months (Rs.145 × 4,500 units)	(6,52,500)
Sales Value to be realised in next nine months	**34,56,000**
No. of units to be sold in next nine months	21,600
Selling price per unit (Rs. 34,56,000 ÷ 21,600 units)	**160**

(5 MARKS)

ANSWER -3

ANSWER –A

Annual Cost Statement of four vehicles

	(Rs.)
Diesel {(4,21,632 km. ÷ 4 km) × Rs. 60) (Refer to Working Note 1)	63,24,480
Oil & sundries {(4,21,632 km. ÷ 100 km.) × Rs. 525}	22,13,568
Maintenance {(4,21,632 km. × Rs. 0.75) + Rs. 18,000} (Refer to Working Note 2)	3,34,224
Drivers' salary {(Rs.22,000 × 12 months) × 4 trucks}	10,56,000
Licence and taxes (Rs. 15,000 × 4 trucks)	60,000
Insurance	80,000
Depreciation {(Rs.29,00,000 ÷ 10 years) × 4 trucks}	11,60,000
General overhead	1,10,840
Total annual cost	**1,13,39,112**

(ii) Cost per km. run

$$\text{Cost per kilometer run} = \frac{\text{Total annual cost of vehicles}}{\text{Total kilometre travelled annually}} \text{ (Refer to Working Note 1)}$$

$$= \frac{₹1,13,39,112}{4,21,632 \text{ Kms}} = ₹ 26.89$$

(iii) Freight rate per tonne km (to yield a profit of 30% on freight)

$$\text{Cost per tonne km.} = \frac{\text{Total annual cost of three vehicles}}{\text{Total effective tonnes kms. per annum}} \text{ (Refer to Working Note 1)}$$

$$= \frac{₹1,13,39,112}{16,10,496 \text{ kms}} = ₹ 7.04$$

$$\text{Freight rate per tonne km.} \left(\frac{₹7.04}{0.7}\right) \times 1 = ₹ 10.06$$

(5 MARKS)

Working Notes:

1. Total kilometre travelled and tonnes kilometre (load carried) by four trucks in one year

Truck number	One way distance in kms	No. of trips	Total distance covered in km per day	Load carried per trip / day in tonnes	Total effective tonnes km
1	48	4	384	6	1,152
2	120	1	240	9	1,080

3	90	2	360	8	1,440
4	60	4	480	8	1,920
Total			1,464		5,592

Total kilometre travelled by four trucks in one year

(1,464 km. × 24 days × 12 months) = 4,21,632

Total effective tonnes kilometre of load carried by four trucks during one year

(5,592 tonnes km. × 24 days × 12 months) = 16,10,496

2. Fixed and variable component of maintenance cost:

$$\text{Variable maintenance cost per km} = \frac{\text{Difference in maintenance cost}}{\text{Difference in distance travelled}}$$

$$= \frac{₹\ 1,38,150 - ₹\ 1,35,525}{1,60,200\ \text{kms} - 1,56,700\ \text{kms}}$$

$$= ₹\ 0.75$$

Fixed maintenance cost = Total maintenance cost – Variable maintenance cost

= ₹1,38,150 – 1,60,200 kms × ₹ 0.75 = ₹ 18,000

(5 MARKS)

ANSWER –B

Process-A A/c

Particulars	Total (Rs.)	Cost (Rs.)	Profit (Rs.)	Particulars	Total (Rs.)	Cost (Rs.)	Profit (Rs.)
Opening stock	5,000	5,000	_	Process B A/c	**28,800**	**21,600**	**7,200**
Direct materials	9,000	9,000	_				
Direct wages	5,000	5,000	_				
	19,000	19,000	_				
Less: Closing stock	(2,000)	(2,000)	_				
Prime Cost	17,000	17,000	_				
Overheads	4,600	4,600	_				
Process Cost	**21,600**	**21,600**	**_**				
Profit (33.33% of total cost)	**7,200**	**-**	**7,200**				

	28,800	**21,600**	**7,200**		28,800	21,600	7,200

(4 MARKS)

Process-B A/c

Particulars	**Total (Rs.)**	**Cost (Rs.)**	**Profit (Rs.)**	**Particulars**	**Total (Rs.)**	**Cost (Rs.)**	**Profit (Rs.)**
Opening stock	5,500	4,500	1,000	Finished stock A/c	**61,675**	**41,550**	**20,125**
Process A A/c	28,800	21,600	7,200				
Direct materials	9,500	9,500	_				
Direct wages	6,000	6,000	_				
	49,800	41,600	8,200				
Less: Closing stock	**(2,490)**	**(2,080)**	**(410)**				
Prime Cost	**47,310**	**39,520**	7,790				
Overheads	2,030	2,030	_				
Process Cost	49,340	41,550	7,790				
Profit (25% of total cost)	**12,335**	**-**	**12,335**				
	61,675	41,550	20,125		61,675	41,550	20,125

(4 MARKS)

Finished Stock A/c

Particulars	**Total (Rs.)**	**Cost (Rs.)**	**Profit (Rs.)**	**Particulars**	**Total (Rs.)**	**Cost (Rs.)**	**Profit (Rs.)**
Opening stock	10,000	6,000	4,000	Costing P&L A/c	**75,000**	**44,181**	**30,819**
Process B A/c	61,675	41,550	20,125				
	71,675	47,550	24,125				
Less: Closing stock	**(5,000)**	**(3,369)**	**(1,631)**				
COGS	66,675	44,181	22,494				
Profit	**8,325**	-	**8,325**				
	75,000	44,181	30,819		75,000	44,181	30,819

(2 MARKS)

ANSWER -4

ANSWER –A

Expense Budget of KLM Ltd.

Particulars	50,000 Units (Rs.)	35,000 Units (Rs.)	70,000 Units (Rs.)
Direct Material	62,50,000 (50,000 x 125)	43,75,000 (35,000 x 125)	87,50,000 (70,000 x 125)
Direct Labour	25,00,000 (50,000 x 50)	17,50,000 (35,000 x 50)	35,00,000 (70,000 x 50)
Variable Overhead	20,00,000 (50,000 x 40)	14,00,000 (35,000 x 40)	28,00,000 (70,000 x 40)
Direct Expenses	7,50,000 (50,000 x 15)	5,25,000 (35,000 x 15)	10,50,000 (70,000 x 15)
Selling Expenses (Variable)*	10,00,000 (50,000 x 20)	7,00,000 (35,000 x 20)	14,00,000 (70,000 x 20)
Selling Expenses (Fixed)* (5 x 50,000)	2,50,000	2,50,000	2,50,000
Factory Expenses (Fixed) (15 x 50,000)	7,50,000	7,50,000	7,50,000
Administration Expenses (Fixed) (8 x 50,000)	4,00,000	4,00,000	4,00,000
Distribution Expenses (Variable)**	8,50,000 (17 x 50,000)	5,95,000 (17 x 35,000)	11,90,000 (17 x 70,000)
Distribution Expenses (Fixed)** (3 x 50,000)	1,50,000	1,50,000	1,50,000
	1,49,00,000	1,08,95,000	2,02,40,000

(8 MARKS)

*Selling Expenses: Fixed cost per unit = Rs.25 x 20% = Rs.5

Fixed Cost = Rs.5 x 50,000 units = Rs.2,50,000

Variable Cost Per unit = Rs.25 – Rs.5 = Rs.20

**Distribution Expenses: Fixed cost per unit = Rs.20 x 15% = Rs.3

Fixed Cost = Rs.3 x 50,000 units = Rs.1,50,000

Variable cost per unit = Rs.20 – Rs.3 = Rs.17

(2 MARKS)

ANSWER – B

(i) Labour Cost Variance = Standard Cost – Actual Cost

= Rs.1,14,400 – Rs.1,54,400

= **40,000 (A)**

(1,600*75+400*60+200*52= Rs.1,54,400)

Or

Types of workers	Standard Cost – Actual Cost	**Amount (**Rs.**)**
Skilled Workers	(30x40x70/2,000x1,600)-(40x40x75) 67,200-1,20,000	52,800 (A)
Semi- Skilled	(15x40x65/2,000x1,600)-(10x40x60) 31,200-24,000	7,200 (F)
Un-Skilled Workers	(10x40x50/2,000x1,600)-(5x40x52) 16,000-10,400	5,600 (F)
Total	1,14,400-1,54,400	**40,000 (A)**

(ii) Labour Rate Variance

Types of workers	**Actual Hours × (Standard Rate - Actual Rate)**	**Amount (Rs.)**
Skilled Workers	1,600 hours × (Rs.70.00 – Rs.75.00)	8,000 (A)
Semi- Skilled	400 hours × (Rs.65.00 – Rs.60.00)	2,000 (F)
Un-Skilled Workers	200 hours × (Rs.50.00 – Rs.52.00)	400 (A)
Total	Rs.8,000 (A) + Rs.2,000 (F) + Rs.400 (A)	**6,400 (A)**

(iii) Labour Efficiency Variance

Types of workers	Standard Rate × (Standard Hours – Actual Hours)	**Amount (Rs.)**
Skilled Workers	Rs.70.00 × (960 hours – 1,440 hours)	33,600 (A)
Semi- Skilled	Rs.65.00 × (480 hours – 360 hours)	7,800 (F)
Un-Skilled Workers	Rs.50.00 × (320 hours – 180 hours)	7,000 (F)
Total	33,600 (A) + 7,800 (F) + 7,000 (F)	**18,800 (A)**

Alternatively labour efficiency can be calculated on basis of labour hours paid

Types of workers	**Standard Rate × (Standard Hours – Actual Hours)**	**Amount (Rs.)**
Skilled Workers	70.00 × (960 hours – 1600 hours)	44,800 (A)
Semi- Skilled	65.00 × (480 hours – 400 hours)	5,200 (F)
Un-Skilled Workers	50.00 × (320 hours – 200 hours)	6,000 (F)
Total	33,600 (A) + 7,800 (F) + 7,000 (F)	**33,600 (A)**

(iv) Labour Mix Variance

= Total Actual Time *Worked* (hours) × {*Average* Standard Rate *per hour* of Standard Gang Less *Average* Standard Rate *per hour* of Actual Gang}

@on the basis of hours worked

$$= 1{,}980 \text{ hours} \times \left(\frac{₹1{,}14{,}400}{1{,}760 \text{ hrs.}} - \frac{1{,}440\text{hrs.} \times ₹70 + 360\text{hrs.} \times ₹65 + 180\text{hrs.} \times ₹50}{1{,}980 \text{ hrs.}} \right)$$

= **₹ 4,500 (A)**

Or

Labour Mix Variance

Types of workers	Std. Rate X (Revised Actual Hours *Worked- Actual Hours Worked*)	**Amount (**Rs.**)**
Skilled Workers	Rs.70 × (1,080 hrs. – 1440 hrs.)	25,200 (A)
Semi- Skilled	Rs.65 × (540 hrs. – 360 hrs.)	11,700 (F)
Un Skilled Workers	Rs.50 × (360 hrs. – 180 hrs.)	9,000 (F)
Total	Rs.25,200 (A) + Rs.11,700 (F) + Rs.9,000 (F)	**4,500 (A)**

(ii) Labour Idle Time Variance

Types of workers	Standard Rate × (Hours Paid – Hours Worked)	**Amount (**Rs.**)**
Skilled Workers	Rs.70.00 × (1,600 hours – 1,440 hours)	11,200 (A)
Semi- Skilled	Rs.65.00 × (400 hours – 360 hours)	2,600 (A)
Un-Skilled Workers	Rs.50.00 × (200 hours – 180 hours)	1,000 (A)
Total	11,200 (A) + 2,600 (A) + 1,000 (A)	**14,800 (A)**

(5*2 = 10 MARKS)

Verification:

Labour Cost Variance

= Labour Rate Variance + Labour Efficiency Variance + Labour Idle Time Variance

= 6,400 (A) + 18,800 (A) + 14,800 (A) = Rs. 40,000 (A)

Labour Cost Variance

= Labour Rate Variance + Labour Efficiency Variance

= 6400(A) + 33600(A)= Rs.40000(A)

In this case, labour idle time variance is a part of labour efficiency variance.

Working Notes:

Category	Standard Cost			Actual (1600 units)			Revised Actual Hours
	Hrs.	Rate	Amt. (Rs.)	Hrs.	Rate	Amt. (Rs.)	
Skilled	960 (30Wx40x1,600/ 2,000)	70.00	67,200	1,440 (40Wx36)	75.00	1,08,000	1,080 (1,980x6/11)
Semi-Skilled	480 (15Wx40 x1,600/2,000)	65.00	31,200	360 (10Wx36)	60.00	21,600	540 (1,980x3/11)
Unskilled	320 (10Wx40 x1,600/2,000)	50.00	16,000	180 (5Wx36)	52.00	9,360	360 (1,980x2/11)
Total	1,760	65	1,14,400	1,980		1,38,960	1,980

ANSWER -5

ANSWER –A

(i) Contribution = ₹375 - ₹175 = ₹200 per unit.

$$\text{Break even Sales Quantity} = \frac{\text{Fixed cost}}{\text{Contribution margin per unit}} = \frac{₹\ 65,00,000}{₹\ 200} = 32,500 \text{ units}$$

$$\text{Cash Break even Sales Qty} = \frac{\text{Cash Fixed Cost}}{\text{Contribution margin per unit}} = \frac{₹50,00,000}{₹200} = 25,000 \text{ units.}$$

(ii) $$\text{P/V ratio} = \frac{\text{Contribution/unit}}{\text{Selling Price/unit}} \times 100 = \frac{₹200}{₹375} \times 100 = 53.33\%$$

(iii) No. of units that must be sold to earn an Income (EBIT) of ₹5,00,000

$$\frac{\text{Fixed cost + Desired EBIT level}}{\text{Contribution margin per unit}} = \frac{65,00,000 + 5,00,000}{200} = 35,000 \text{ units}$$

(iv) After Tax Income (PAT) = ₹5,00,000

Tax rate = 40%

$$\text{Desired level of Profit before tax} = \frac{₹5,00,000}{60} \times 100 = ₹8,33,333$$

$$\text{Estimate Sales Level} = \frac{\text{Fixed Cost} + \text{Desired Profit}}{\text{P/V ratio}}$$

$$\text{Or, } \left(\frac{\text{Fixed Cost} + \text{Desired Profit}}{\text{Contribution per unit}} \times \text{Selling Price per unit} \right)$$

$$= \frac{₹65,00,000 + ₹8,33,333}{53.33\%} = ₹1,37,50,859$$

(5 MARKS)

ANSWER –B

The Cost of labour under the bonus schemes are tabulated as below:

Time Allowed	Time taken	Wages (Rs.)	Bonus (Rs.)		Total Wages (Rs.)		Earning per hour (Rs.)	
			Halsey*	Rowan**	Halsey	Rowan	Halsey	Rowan
(1)	(2)	(3) = (2) ×Rs. 80	(4)	(5)	(6) = (3) + (4)	(7) = (3) + (5)	(8) = (6)/(2)	(9) = (7)/(2)
24,960	24,960	19,96,800	-	-	19,96,800	19,96,800	80.00	80.00
24,960	18,720	14,97,600	2,49,600	3,74,400	17,47,200	18,72,000	93.33	100.00
24,960	12,480	9,98,400	4,99,200	4,99,200	14,97,600	14,97,600	120.00	120.00
24,960	6,240	4,99,200	7,48,800	3,74,400	12,48,000	8,73,600	200.00	140.00

* Bonus under Halsey Plan = 50% of (Time Allowed – Time Taken) × Rate per hour

$$\text{** Bonus under Rowan Plan} = \frac{\text{Time taken}}{\text{Time allowed}} \times \text{Time saved} \times \text{Rate per hour}$$

Rowan scheme of bonus keeps checks on speed of work as the rate of incentive increases only upto 50% of time taken to time allowed but the rate decreases as the time taken to time allowed comes below 50%. It provides incentives for efficient workers for saving in time but also puts check on careless speed. On implementation of Rowan scheme, the management of ADV Pvt. Ltd. would resolve issue of the slow speed work while maintaining the skill and precision required maintaining the quality of product.

(5 MARKS)

ANSWER –C

(i) Overheads application base: Direct labour hours

	Equipment	Equipment
	A (Rs.)	**B (Rs.)**
Direct material cost	350	400
Direct labour cost	360	480
Overheads*	180	240
	890	1120

$$*\text{Pre-determined rate} = \frac{\text{Budgeted overheads}}{\text{Budgeted direct labour hours}} = \frac{₹\ 15,00,000}{25,000\ \text{hours}} = ₹60$$

(2 MARKS)

(ii) Estimation of Cost-Driver rate

Activity	Overhead cost	Cost-driver level	Cost driver rate
	(Rs.)		**(Rs.)**
Order processing	3,00,000	600 Orders processed	500
Machine processing	10,00,000	50,000 Machine hours	20
Inspection	2,00,000	15,000 Inspection hours	10

	Equipment	Equipment
	A (Rs.)	**B (Rs.)**
Direct material cost	350	400
Direct labour cost	360	480
Prime Cost(A)	710	880
Overhead Cost		
Order processing 400: 200	**2,00,000**	**1,00,000**
Machine processing 22,500: 27,500	**4,50,000**	**5,50,000**
Inspection 5,000: 15,000	**50,000**	**1,50,000**
Total overhead cost	7,00,000	8,00,000

(Overheads cost per unit for each overhead can also be calculated)

Per unit cost	A (Rs.)	B (Rs.)
7,00,000 /3,200 **(B)-A**	218.75	
8,00,000/ 3,850 **(B)-B**		207.79
Unit manufacturing cost **(A+B)**	**928.75**	**1,087.79**

(6 MARKS)

(iii) Calculation of Cost Distortion

	Equipment A (Rs.)	Equipment B (Rs.)
Unit manufacturing cost–using direct labour hours as an application base	890.00	1,120.00
Unit manufacturing cost-using activity based costing	928.75	1,087.79
Cost distortion	**-38.75**	**32.21**

(2 MARKS)

ANSWER -6

ANSWER –A

Flexible budgeting may be resorted to under following situations:

(i) In the case of new business venture due to its typical nature it may be difficult to forecast the demand of a product accurately.

(ii) Where the business is dependent upon the mercy of nature e.g., a person dealing in wool trade may have enough market if temperature goes below the freezing point.

(iii) In the case of labour-intensive industry where the production of the concern is dependent upon the availability of labour.

Suitability for flexible budget:

1. Seasonal fluctuations in sales and/or production, for example in soft drinks industry;
2. a company which keeps on introducing new products or makes changes in the design of its products frequently;
3. industries engaged in make-to-order business like ship building;
4. an industry which is influenced by changes in fashion; and
5. General changes in sales.

(5 MARKS)

ANSWER –B

Difference between Cost Accounting and Management Accounting

	Basis	Cost Accounting	Management Accounting
(i)	Nature	It records the quantitative aspect only.	It records both qualitative and quantitative aspect.
(ii)	Objective	It records the cost of producing a product and providing a service.	It Provides information to management for planning and co-ordination.
(iii)	Area	It only deals With cost Ascertainment	It is wider in scope as it includes financial accounting, budgeting, taxation, planning etc.
(iv)	Recording of data	It uses both past and present figures.	It is focused with the projection of figures for future.
(v)	Development	Its development is related to industrial revolution.	It develops in accordance to the need of modern business world.
(vi)	Rules and Regulation	It follows certain principles and procedures for recording costs of different products.	It does not follow any specific rules and regulations.

(5 MARKS)

ANSWER –C

Budget Manual: A budget manual is a collection of documents that contains key information for those involved in the planning process. Typical contents could include the following:

- An introductory explanation of the budgetary planning and control process, including a statement of the budgetary objective and desired results.
- A form of organisation chart to show who is responsible for the preparation of each functional budget and the way in which the budgets are interrelated.
- A timetable for the preparation of each budget. This will prevent the formation of a 'bottleneck' with the late preparation of one budget holding up the preparation of all others.
- Copies of all forms to be completed by those responsible for preparing budgets, with explanations concerning their completion.
- A list of the organization's account codes, with full explanations of how to use them.
- Information concerning key assumptions to be made by managers in their budgets, for example the rate of inflation, key exchange rates, etc.

(5 MARKS)

ANSWER –D

Integrated Accounting System: Integrated Accounts is the name given to a system of accounting, whereby cost and financial accounts are kept in the same set of books. Obviously, then there will be no separate sets of books for Costing and Financial records. Integrated accounts provide or meet out fully the information requirement for Costing as well as for Financial Accounts. For Costing it provides information useful for ascertaining the cost of each product, job, and process, operation of any other identifiable activity and for carrying necessary analysis. Integrated accounts provide relevant information which is necessary for preparing profit and loss account and the balance sheets as per the requirement of law and also helps in exercising effective control over the liabilities and assets of its business.

Advantages of Integrated Accounting System

The main advantages of Integrated Accounts are as follows:

(i) **No need for Reconciliation** - The question of reconciling costing profit and finan- cial profit does not arise, as there is only one figure of profit.

(ii) **Less efforts** - Due to use of one set of books, there is a significant saving in efforts made.

(iii) **Less time consuming** - No delay is caused in obtaining information as it is provided from books of original entry.

(iv) **Economical process** - It is economical also as it is based on the concept of "Centralisation of Accounting function".

(5 MARKS)