

**PRELIMINARY EXAMINATION**  
**SOLUTION - COST ACCOUNTING AND FINANCIAL MANAGEMENT**

Ans.1.

(a) **A Limited**

Computation of Degree of Operating Leverage (DOL)

Selling price = ₹ 14 per unit

Variable cost = ₹ 9 per unit

Fixed cost = Break-even point × (Selling price - Variable cost)

$$= 20,000 \times (14 - 9)$$

$$= 20,000 \times 5$$

$$= 1,00,000$$

Particulars	Calculation	For 25,000 units	For 30,000 units
		(₹)	(₹)
Sales	@ ₹ 14 per unit	3,50,000	4,20,000
<u>Less</u> : Variable Cost	@ ₹ 9 per unit	2,25,000	2,70,000
Contribution		1,25,000	1,50,000
<u>Less</u> : Fixed Cost		1,00,000	1,00,000
EBIT		25,000	50,000
Degree of operating leverage	$\left( \frac{\text{Contribution}}{\text{EBIT}} \right)$	5 times	3 times
		$\left( \frac{₹ 1,25,000}{₹ 25,000} \right)$	$\left( \frac{₹ 1,50,000}{₹ 50,000} \right)$

**(b)**

$$\text{Labour Turnover Rate (Replacement method)} = \frac{\text{Number of workers replaced}}{\text{Average number of workers}}$$

$$\therefore \frac{8}{100} = \frac{36}{\text{Average number of workers}}$$

$$\therefore \text{Average number of workers} = 450$$

$$\text{Labour Turnover Rate (Separation method)} = \frac{\text{Number of workers separated}}{\text{Average number of workers}}$$

$$\therefore \frac{6}{100} = \frac{\text{Number of workers separated}}{450}$$

$$\therefore \text{Number of workers separated} = 27$$

$$\text{Labour Turnover Rate (Flux method)} = \frac{\text{No. of separations} + \text{No. of accessions (joinings)}}{\text{Average number of workers}}$$

$$\therefore \frac{14}{100} = \frac{27 + \text{No. of accessions (joinings)}}{450}$$

$$\therefore \text{Number of accessions} = 36$$

(i) The number of workers recruited and joined = 36

(ii) The number of workers left and discharged = 27

(c)

Mr. PComputation of Future Value

Principal (P) = ₹ 2,40,000

Rate of Interest (i) = 10% p.a.

Time period (n) = 3 years

Amount if compounding is done :

(i) Annually

$$\text{Future Value} = P(1 + i)^n$$

$$= 2,40,000 \left(1 + \left(1 + \frac{10}{100}\right)^3\right)$$

$$= 2,40,000 (1 + 0.1)^3$$

$$= 2,40,000 (1.1)^3$$

$$= 2,40,000 \times 1.331$$

$$= ₹ 3,19,440$$

(ii) Semi-Annually

$$\text{Future Value} = P(1 + i)^n$$

$$= 2,40,000 \left(1 + \frac{10}{100 \times 2}\right)^{3 \times 2}$$

$$= 2,40,000 (1 + 0.05)^6$$

$$= 2,40,000 \times (1.05)^6$$

$$= 2,40,000 \times 1.3401$$

$$= ₹ 3,21,624$$

**(d) MN Limited**

Annual demand of material 'X' = 8,000 units per quarter × 4 quarters in a year × 3 kgs.  
= 96,000 kgs.

(i) Calculation of Economic Order Quantity (EOQ) for material 'X'

$$\begin{aligned} \text{EOQ} &= \sqrt{\frac{2 \times \text{Annual demand} \times \text{ordering cost}}{\text{Carrying cost per unit per annum}}} \\ &= \sqrt{\frac{2 \times 96,000 \text{ kgs.} \times ₹ 1,000}{₹ 20 \times 15\%}} \\ &= 8,000 \text{ kgs.} \end{aligned}$$

(ii) Evaluation of Cost under different options of 'order quantity'

Particulars	When EOQ is ordered		When discount of 2% is accepted and supply is in 4 equal installments	
	Calculation		Calculation	
Order size		8000 kgs.	$\frac{96,000 \text{ kgs.}}{4}$	24,000 kgs.
Number of orders	$\frac{96,000 \text{ kgs.}}{800 \text{ kgs.}}$	12	$\frac{96,000 \text{ kgs.}}{24,000 \text{ kgs.}}$	4
Purchase cost / kg.		₹ 20	20 - (2% × ₹ 20)	₹ 19.60
Total purchase cost (A)	96,000 kgs. × ₹ 20	₹ 19,20,000	96,000 kgs. × 19.6	₹ 18,81,600
Ordering cost (B)	12 orders × ₹ 1,000	₹ 12,000	4 orders × ₹ 1,000	₹ 4,000
Carrying cost (C)	$\frac{8,000 \text{ kgs.}}{2} \times 15\% \times 20$	₹ 12,000	$\frac{24,000 \text{ kgs.}}{2} \times 15\% \times 19.6$	₹ 35,280
Total cost (A+B+C)		₹ 19,44,000		₹ 19,20,880

**Conclusion :**

The total cost is lower, if company accept an offer of 2 percent discount by the supplier, when supply of the annual requirement of material 'X' is made in 4 equal instalments.

Ans.2.

(a) Primary Distribution of Overheads

Item	Basis	Total Amount (₹)	Production Departments			Service Departments	
			A (₹)	B (₹)	C (₹)	S (₹)	T (₹)
Indirect material	Actual	1,25,000	20,000	30,000	45,000	25,000	5,000
Indirect labour	Actual	2,60,000	45,000	50,000	70,000	60,000	35,000
Superintendent's salary	Actual	96,000	-	-	96,000	-	-
Fuel and heat	Radiator sections [ 2:4:6:5:3 ]	15,000	1,500	3,000	4,500	3,750	2,250
Power	Kilowatt hours [ 7:8:6:3:0 ]	1,80,000	52,500	60,000	45,000	22,500	-
Rent and rates	Area (sq. ft.) [ 22:20:15:12:6 ]	15,000	4,400	4,000	3,000	2,400	1,200
Insurance	Capital value of assets [ 4:6:5:1:2 ]	18,000	4,000	6,000	5,000	1,000	2,000
Meal charges	No. of employees [ 6:7:12:3:2 ]	60,000	12,000	14,000	24,000	6,000	4,000
Depreciation	Capital value of assets [ 4:6:5:1:2 ]	2,70,000	60,000	90,000	75,000	15,000	30,000
Total overheads		10,39,000	1,99,400	2,57,000	3,67,500	1,35,650	79,450

Re-distribution of Overheads of Service Department S and T

Total overheads of service departments may be distributed using simultaneous equation method

Let, the total overheads of S = s and the total overheads of T = t

$$s = 1,35,650 + 0.10 t \quad (i)$$

$$10s - t = 13,56,500 \quad [(i) \times 10]$$

$$t = 79,450 + 0.20s \quad (ii)$$

$$- 0.20s + t = 79,450$$

$$\begin{array}{r} 10s - t = 13,56,500 \\ - 0.20s + t = 79,450 \\ \hline \end{array}$$

$$9.8s = 14,35,950$$

$$s = 1,46,526$$

Putting the value of 's' in equation (ii), we get

$$t = 79,450 + 0.20 \times 1,46,526$$

$$t = 1,08,753$$

## Secondary Distribution of Overheads

Particulars	Calculation	Production Departments		
		A (₹)	B (₹)	C (₹)
Total overheads		1,99,400	2,57,000	3,67,500
(as per primary distribution)				
Service department S	80% of 1,46,526	43,958	43,958	29,305
Service department T	90% of 1,08,753	27,188	43,501	27,188
Total		2,70,546	3,44,459	4,23,993

**(b) V Limited****(i) Computation of Average Inventory**

$$\begin{aligned} \text{Gross Profit} &= 25\% \text{ of } 30,00,000 \\ &= 7,50,000 \\ \text{Cost of goods sold (COGS)} &= 30,00,000 - 7,50,000 \\ &= 22,50,000 \end{aligned}$$

$$\begin{aligned} \text{Inventory Turnover Ratio} &= \frac{\text{COGS}}{\text{Average Inventory}} \\ 6 &= \frac{22,50,000}{\text{Average Inventory}} \end{aligned}$$

$$\text{Average Inventory} = 3,75,000$$

**(ii) Computation of Purchases**

$$\begin{aligned} \text{Purchases} &= \text{COGS} + \text{Increase in Stock} \\ &= 22,50,000 + 80,000 \\ &= 23,30,000 \end{aligned}$$

**(iii) Computation of Average Debtors**

$$\begin{aligned} \text{Let credit sales be ₹ } 100 \\ \text{Cash sales} &= 25\% \text{ of ₹ } 100 \\ &= ₹ 25 \\ \text{Total Sales} &= ₹ 100 + ₹ 25 \\ &= ₹ 125 \end{aligned}$$

$$\begin{aligned} \text{If total sales is } 30,00,000, \text{ then credit sales} &= \frac{30,00,000 \times 100}{125} \\ &= 24,00,000 \end{aligned}$$

$$\text{Cash sales} = 6,00,000$$

$$\begin{aligned} \text{Debtors Turnover Ratio} &= \frac{\text{Net credit sales}}{\text{Average debtors}} \\ &= \frac{24,00,000}{\text{Average debtors}} = 8 \end{aligned}$$

$$\begin{aligned} \text{Average Debtors} &= \frac{24,00,000}{8} \\ &= 3,00,000 \end{aligned}$$

(iv) Computation of Average Creditors

$$\begin{aligned}\text{Credit Purchases} &= \text{Purchases} - \text{Cash Purchases} \\ &= 23,30,000 - 2,30,000 \\ &= 21,00,000\end{aligned}$$

$$\begin{aligned}\text{Creditors Turnover Ratio} &= \frac{\text{Credit Purchases}}{\text{Average Creditors}} \\ 10 &= \frac{21,00,000}{\text{Average Creditors}}\end{aligned}$$

$$\text{Average Creditors} = 2,10,000$$

(v) Computation of Average Payment Period

$$\begin{aligned}\text{Average Payment Period} &= \frac{\text{Average Creditors}}{\text{Average Daily Credit Purchases}} \\ &= \frac{2,10,000}{\left(\frac{\text{Credit Purchases}}{365}\right)} \\ &= \frac{2,10,000}{\left(\frac{21,00,000}{365}\right)} \\ &= \frac{2,10,000}{21,00,000} \times 365 \\ &= 36.5 \text{ days}\end{aligned}$$

OR

$$\begin{aligned}\text{Average Payment Period} &= \frac{365}{\text{Creditors Turnover Ratio}} \\ &= \frac{365}{10} \\ &= 36.5 \text{ days}\end{aligned}$$

(vi) Computation of Average Collection Period

$$\begin{aligned}\text{Average Collection Period} &= \frac{\text{Average Debtors}}{\text{Net Credit Sales}} \times 365 \\ &= \frac{3,00,000}{24,00,000} \times 365 \\ &= 45.625 \text{ days}\end{aligned}$$

OR

$$\begin{aligned}\text{Average Collection Period} &= \frac{365}{\text{Debtors Turnover Ratio}} \\ &= \frac{365}{8} \\ &= 45.625 \text{ days}\end{aligned}$$



(vii) Computation of Current Assets

$$\text{Current Ratio} = \frac{\text{Current Assets (CA)}}{\text{Current Liabilities (CL)}}$$

$$2.4 \text{ Current Liabilities} = \text{Current Assets}$$

OR

$$\text{Current Liabilities} = \frac{\text{Current Assets (CA)}}{2.4}$$

$$\text{Working Capital} = \text{Current Assets} - \text{Current Liabilities}$$

$$2,80,000 = \text{Current Assets} - \frac{\text{Current Assets (CA)}}{2.4}$$

$$2,80,000 = 1.4 - \frac{\text{Current Assets (CA)}}{2.4}$$

$$\text{Current Assets} = 4,80,000$$

(viii) Computation of Current Liabilities

$$\begin{aligned} \text{Current Liabilities} &= \frac{4,80,000}{2.4} \\ &= 2,00,000 \end{aligned}$$



Ans.3.

(a) **DEF Limited**

i. Schedule of Changes in the Working Capital

Particulars	31 <sup>st</sup> March		Changes in working capital (in lakhs)	
	2011	2012	Increase	Decrease
	(₹)	(₹)	(₹)	(₹)
<b>A. Current Assets</b>				
Stock	8.60	12.70	4.10	
Sundry Debtors	10.20	13.00	2.80	
Bills Receivables	1.00	0.70		0.30
Cash in Hand and Bank	7.20	8.90	1.70	
<b>Total (A)</b>	<b>27.00</b>	<b>35.3</b>		
<b>B. Current Liabilities</b>				
Sundry Creditors	3.50	4.60		1.10
Bills Payable	2.00	1.80	0.20	
<b>Total (B)</b>	<b>5.5</b>	<b>6.4</b>		
<b>C. Working Capital (A - B)</b>	<b>21.5</b>	<b>28.9</b>		
<b>D. Increase in Working Capital</b>	<b>7.4</b>			<b>7.4</b>
	<b>28.9</b>	<b>28.9</b>	<b>8.8</b>	<b>8.8</b>

ii. Preparation of Funds Flow Statement

**Working Notes :**

Dr.	Plant and Machinery Account		Cr.
Particulars	₹	Particulars	₹
To Balance b/d	22.00	By Depreciation	3.00
To Bank (Purchase)	13.7	By Bank (Sale)	1.50
(Balancing figure)		By Loss on Sale	0.20
		By Balance c/d	31.00
	<b>35.70</b>		<b>35.70</b>

**Dr. Provision for Taxation Account Cr.**

Particulars	₹	Particulars	₹
To Balance c/d	5.00	By Balance b/d	4.00
To Bank A/c	3.80	By P&L A/c (balancing figure)	4.80
	<b>8.80</b>		<b>8.80</b>

**Dr. Investment Account Cr.**

Particulars	₹	Particulars	₹
To Balance b/d	2.00	By Dividend A/c	0.15
To Bank (purchase b/d)	1.65	By Balance c/d	3.50
	<b>3.65</b>		<b>3.65</b>

**Dr. Land and Building Account Cr.**

Particulars	₹	Particulars	₹
To Balance b/d	20.00	By Bank A/c (Sale)	4.00
To Capital Reserve (Profit on Sale)	2.50	By Depreciation	0.50
		By Balance c/d	18.00
	<b>22.50</b>		<b>22.50</b>

**Dr. Adjusted Profit and Loss Account Cr.**

Particulars	₹	Particulars	₹
To <u>Depreciation on</u> :		By Net Profit for 2011	5.30
Plant and Machinery	3.00	By Dividend on Investment	0.25
Land and Building	0.50	By Funds from Operations	26.15
To Loss on Sale of Machinery	0.20		
To Goodwill written off	0.80		
To Share Issue Expenses written off	0.20		
To Provision for Taxation	4.80		
To Transfer to General Reserves	2.00		
To Interim Dividend	2.50		
To Proposed Dividend	11.00		
To Net Profit for 2012	6.70		
	<b>31.70</b>		<b>31.70</b>

## Funds Flow Statement as on 31st March 2012

Sources of Funds	₹	Application of Funds	₹
Funds from Operations	26.15	Increase in Working Capital	7.40
Dividend on Investment	0.40	Tax paid	3.80
Sale of Machinery	1.50	Interim Dividend	2.50
Issue of Shares	5.00	Dividend	8.00
Sale of land	4.00	Purchase of Investments	1.65
		Purchase of Plant	13.70
	37.05		37.05

**Note :**

Schedule of changes in the working capital may be computed alternatively by taking provision for tax as a current liability.



**(b) Working Notes :**

(i) Calculation of Notional Profit

$$\begin{aligned}
 &= (\text{Work certified} + \text{Work not certified}) - \text{Total expenditure to date} \\
 &= (\text{₹ } 10,00,000 + \text{₹ } 85,000) - \text{₹ } 8,50,000 \\
 &= \text{₹ } 2,35,000
 \end{aligned}$$

(ii) Calculation of Estimated Profit

$$\begin{aligned}
 &= \text{Contract Price} - (\text{Expenditure to date} + \text{Further expenditure to be incurred}) \\
 &= \text{₹ } 15,30,000 - (\text{₹ } 8,50,000 + \text{₹ } 1,70,000) \\
 &= \text{₹ } 5,10,000
 \end{aligned}$$

Computation of Conservative Estimate of Profit by following methods :

$$\begin{aligned}
 1. \text{ Notional Profit} &\times \frac{2}{3} \times \frac{\text{Cash received}}{\text{Work certified}} \\
 &= \text{₹ } 2,35,000 \times \frac{2}{3} \times \frac{\text{₹ } 8,16,000}{\text{₹ } 10,00,000} \\
 &= \text{₹ } 1,27,840
 \end{aligned}$$

$$\begin{aligned}
 2. \text{ Estimated Profit} &\times \frac{\text{Cost of work done}}{\text{Estimated total cost}} \times \frac{\text{Cash received}}{\text{Work certified}} \\
 &= \text{₹ } 5,10,000 \times \frac{\text{₹ } 8,50,000}{(\text{₹ } 8,50,000 + \text{₹ } 1,70,000)} \times \frac{\text{₹ } 8,16,000}{\text{₹ } 10,00,000} \\
 &= \text{₹ } 3,46,800
 \end{aligned}$$

$$\begin{aligned}
 3. \text{ Estimated Profit} &\times \frac{\text{Cash received}}{\text{Contract Price}} \\
 &= \text{₹ } 5,10,000 \times \frac{\text{₹ } 8,16,000}{\text{₹ } 15,30,000} \\
 &= \text{₹ } 2,72,000
 \end{aligned}$$

$$\begin{aligned}
 4. \text{ Notional Profit} &\times \frac{\text{Work certified}}{\text{Contract Price}} \times \frac{\text{Cash received}}{\text{Work certified}} \\
 &= \text{₹ } 2,35,000 \times \frac{\text{₹ } 10,00,000}{\text{₹ } 15,30,000} \times \frac{\text{₹ } 8,16,000}{\text{₹ } 10,00,000} \\
 &= \text{₹ } 1,25,333
 \end{aligned}$$

$$\begin{aligned}
 5. \text{ Estimated Profit} &\times \frac{\text{Work certified}}{\text{Contract Price}} \\
 &= \text{₹ } 5,10,000 \times \frac{\text{₹ } 10,00,000}{\text{₹ } 15,30,000} \\
 &= \text{₹ } 3,33,333
 \end{aligned}$$

$$\begin{aligned} 6. \text{ Estimated Profit} &\times \frac{\text{Cost of work done}}{\text{Estimated total cost}} \\ &= ₹ 5,10,000 \times \frac{₹ 8,50,000}{₹ 10,20,000} \\ &= ₹ 4,25,000 \end{aligned}$$

$$\begin{aligned} 7. \text{ Notional Profit} &\times \frac{\text{Work certified}}{\text{Contract Price}} \\ &= ₹ 2,35,000 \times \frac{₹ 10,00,000}{₹ 15,30,000} \\ &= ₹ 1,53,595 \end{aligned}$$

**Conclusion :**

Most conservative Profit is ₹ 1,25,333; therefore profit to be transferred to Profit and Loss Account is ₹ 1,25,333.



Q.4.

(a) Working Note :

Table Showing Standard and Actual Cost

Category of workers	Standard hours	Standard rate per hour	Standard cost for Actual Output	Actual hours paid	Actual rate per hour	Actual cost	Idle time	Actual hours worked
	(a)	(b)	(c) = (a) × (b)	(d)	(e)	(f) = (d) × (e)	(f)	(g) = (d) - (f)
	(hours)	(₹)	(₹)	(hours)	(₹)	(₹)	(hours)	(hours)
Skilled	2,340	45	1,05,300	2,000	50	1,00,000	100	1,900
	[ (65 workers × 40 hours) / 2,000 units ] × 1,800 units			(50 workers × 40 hours)			(50 workers × 2 hours)	(2,000 hours - 100 hours)
Semi-skilled	720	30	21,600	1,200	35	42,000	60	1,140
	[ (20 workers × 40 hours) / 2,000 units ] × 1,800 units			(30 workers × 40 hours)			(30 workers × 2 hours)	(1,200 hours - 60 hours)
Unskilled	540	15	8,100	800	10	8,000	40	760
	[ (15 workers × 40 hours) / 2,000 units ] × 1,800 units			(20 workers × 40 hours)			(20 workers × 2 hours)	(800 hours - 40 hours)
<b>Total</b>	<b>3,600</b>		<b>1,35,000</b>	<b>4,000</b>		<b>1,50,000</b>	<b>200</b>	<b>3,800</b>

**CALCULATION OF VARIANCES**

Sr.			
No.	Particulars	Variance	
1.	Labour Cost Variance		
	= Standard Cost for actual output - Actual cost		
	Skilled : ₹ 1,05,300 - ₹ 1,00,000	₹ 5,300 (F)	
	Semi-skilled : ₹ 21,600 - ₹ 42,000	₹ 20,400 (A)	
	Unskilled : ₹ 8,100 - ₹ 8,000	₹ 100 (F)	₹ 15,000 (A)
2.	Labour Efficiency Variance		
	= Standard Rate × (Standard Hours - Actual Hours worked)		
	Skilled : ₹ 45 × (2,340 hours - 1,900 hours)	₹ 19,800 (F)	
	Semi-skilled : ₹ 30 × (720 hours - 1,140 hours)	₹ 12,600 (A)	
	Unskilled : ₹ 15 × (540 hours - 760 hours)	₹ 3,300 (A)	₹ 3,900 (F)
3.	Labour Idle Time Variance		
	= Standard Rate × Idle Hours		
	Skilled : ₹ 45 × 100 hours	₹ 4,500 (A)	
	Semi-skilled : ₹ 30 × 60 hours	₹ 1,800 (A)	
	Unskilled : ₹ 15 × 40 hours	₹ 600 (A)	₹ 6,900 (A)



**(b) PQ Limited****Evaluation of Alternatives****Working Note :**

$$\text{Depreciation on machine } A_1 = \frac{\text{₹ } 20,00,000}{5 \text{ years}} = \text{₹ } 4,00,000$$

$$\text{Depreciation on machine } A_2 = \frac{\text{₹ } 25,00,000}{5 \text{ years}} = \text{₹ } 5,00,000$$

	Machine A <sub>1</sub>	Machine A <sub>2</sub>
Particulars	(₹)	(₹)
<u>Annual Savings :</u>		
Direct Wages	7,00,000	9,00,000
Scraps	60,000	1,00,000
Total Savings (A)	7,60,000	10,00,000
<u>Annual Estimated Cash Cost :</u>		
Indirect Material	30,000	90,000
Indirect Labour	40,000	50,000
Repairs and Maintenance	45,000	85,000
Total Cost (B)	1,15,000	2,25,000
Annual Cash Savings (A-B)	6,45,000	7,75,000
<u>Less : Depreciation</u>	4,00,000	5,00,000
Annual Savings before Tax	2,45,000	2,75,000
<u>Less : Tax @ 30%</u>	73,500	82,500
Annual Savings / Profits After Tax	1,71,500	1,92,500
<u>Add : Depreciation</u>	4,00,000	5,00,000
Annual Cash Inflows	5,71,500	6,92,500

$$1. \text{ Payback Period} = \frac{\text{Total initial capital investment}}{\text{Annual expected after tax net cashflow}}$$

$$\text{Machine } A_1 = \frac{20,00,000}{5,71,500} = 3.50 \text{ years}$$

$$\text{Machine } A_2 = \frac{25,00,000}{6,92,500} = 3.61 \text{ years}$$

**Conclusion** : Machine A<sub>1</sub> is better.

$$2. \text{ Accounting (Average) Rate of Return (ARR)} = \frac{\text{Average Annual Net Savings}}{\text{Average Investment}} \times 100$$

$$\text{Machine A}_1 = \frac{1,71,500}{10,00,000} \times 100 = 17.15\%$$

$$\text{Machine A}_2 = \frac{1,92,500}{12,50,000} \times 100 = 15.4\%$$

**Conclusion** : Machine A<sub>1</sub> is better.

(Note : ARR may be computed alternatively by taking initial investment in the denominator.)

### 3. Profitability Index or PV Index

Present Value Cash Inflow = Annual Cash Inflow × PV Factor at 12%

$$\text{Machine A}_1 = 5,71,500 \times 3.605 = ₹ 20,60,258$$

$$\text{Machine A}_2 = 6,92,500 \times 3.605 = ₹ 24,96,463$$

$$\text{PV Index} = \frac{\text{Present value of cash flow}}{\text{Investment}}$$

$$\text{Machine A}_1 = \frac{20,60,258}{20,00,000} = 1.03$$

$$\text{Machine A}_2 = \frac{24,96,463}{25,00,000} = 0.998 \quad 1.00$$

**Conclusion** : Machine A<sub>1</sub> is better.



Ans.5.

(a) **Essentials of a good Cost Accounting System :**

The essential features, which a good Cost Accounting System should possess, are as follows :

- i. **Informative and Simple** : Cost Accounting System should be tailor-made, practical, simple and capable of meeting the requirements of a business concern.
- ii. **Accuracy** : The data to be used by the Cost Accounting System should be accurate; otherwise it may distort the output of the system.
- iii. **Support from Management** : Necessary cooperation and participation of executives from various departments of the concern is essential for developing a good system of Cost Accounting.
- iv. **Cost- Benefit** : The cost of installing and operating the system should justify the results.
- v. **Precise Information** : The system of costing should not sacrifice the utility by introducing meticulous and unnecessary details.
- vi. **Procedure** : A carefully phased programme should be prepared by using network analysis for the introduction of the system.
- vii. **Trust** : Management should have faith in the costing system and should also provide a helping hand for its development and success.

(b) **Definition of Inter-process profit and its advantages and disadvantages**

In some process industries the output of one process is transferred to the next process not at cost but at market value or cost plus a percentage of profit. The difference between cost and the transfer price is known as inter-process profits.

The advantages and disadvantages of using inter-process profit, in the case of process type industries are as follows :

**Advantages :**

1. Comparison between the cost of output and its market price at the stage of completion is facilitated.
2. Each process is made to stand by itself as to the profitability.

**Disadvantages :**

1. The use of inter-process profits involves complication.
2. The system shows profits which are not realised because of stock not sold out

**(c) Meaning of Operating Costing :**

Operating costing is a method of ascertaining costs of providing or operating a service. This method of costing is applied by those undertakings which provide services rather than production of commodities. This costing method is usually made use of by transport companies, gas and water works departments, electricity supply companies, canteens, hospitals, theatres, schools, etc.

**Computation of composite units:** When two units are merged into one it is called Composite units. It is explained with example as follows :

Composite units, i.e., tonnes kms., quintal kms., etc. may be computed in two ways :

(i) Absolute (weighted average) tonnes-kms.

Absolute tonnes-kms., are the sum total of tonnes-kms., arrived at by multiplying various distances by respective load quantities carried.

(ii) Commercial (simple average) tonnes-kms.

Commercial tonnes-kms., are arrived at by multiplying total distance kms., by average load quantity.

**(d) Fundamental Principles Governing Capital Structure :**

The fundamental principles are:

- (i) **Cost Principle:** According to this principle, an ideal pattern or capital structure is one that minimises cost of capital structure and maximises earnings per share (EPS).
- (ii) **Risk Principle:** According to this principle, reliance is placed more on common equity for financing capital requirements than excessive use of debt. Use of more and more debt means higher commitment in form of interest payout. This would lead to erosion of shareholders value in unfavourable business situation.
- (iii) **Control Principle:** While designing a capital structure, the finance manager may also keep in mind that existing management control and ownership remains undisturbed.
- (iv) **Flexibility Principle:** It means that the management chooses such a combination of sources of financing which it finds easier to adjust according to changes in need of funds in future too.
- (v) **Other Considerations:** Besides above principles, other factors such as nature of industry, timing of issue and competition in the industry should also be considered.

(Note: Students may answer any four of the above principles.)

Ans.6.

(a) XY Limited

Break-even point (in units) is 50% of sales, i.e., 12,000 units

Hence, break-even point (in sales value) is 12,000 units × ₹ 200 = ₹ 24,00,000

$$\begin{aligned} \text{(i) We know that break-even sales} &= \frac{\text{Fixed Cost}}{\text{P/V ratio}} \\ ₹ 24,00,000 &= \frac{\text{Fixed Cost}}{25\%} \\ &= ₹ 24,00,000 \times 25\% \\ &= ₹ 6,00,000 \end{aligned}$$

So, Fixed Cost for the year is ₹ 6,00,000

$$\begin{aligned} \text{(ii) Contribution for the year} &= 24,000 \text{ units} \times ₹ 200 \times 25\% \\ &= ₹ 12,00,000 \\ \text{Profit for the year} &= \text{Contribution} - \text{Fixed Cost} \\ &= ₹ 12,00,000 - ₹ 6,00,000 = ₹ 6,00,000 \end{aligned}$$

$$\begin{aligned} \text{(iii) Target net profit is} & ₹ 11,00,000 \\ \text{Hence, Target contribution} &= \text{Target Profit} + \text{Fixed Cost} \\ &= ₹ 11,00,000 + ₹ 6,00,000 \\ &= ₹ 17,00,000 \end{aligned}$$

Contribution per unit = 25% of ₹ 200 = ₹ 50 per unit

$$\text{No. of units} = \frac{₹ 17,00,000}{₹ 50 \text{ per unit}} = 34,000 \text{ unit}$$

So, 34,000 units to be sold to earn a target net profit of ₹ 11,00,000 for a year.

$$\text{(iv) Net desired total sales (Number of unit} \times \text{Selling price) be } x, \text{ then desired profit is } 25\% \text{ on cost or } 20\% \text{ on sales, i.e., } 0.2x$$

$$\begin{aligned} \text{Desired Sales} &= \frac{\text{Fixed Cost} + \text{Desired Profit}}{\text{P/V ratio}} \\ x &= \frac{6,00,000 + 0.2x}{25\%} \end{aligned}$$

$$\text{or, } 0.25x = 6,00,000 + 0.2x$$

$$\text{or, } 0.05x = 6,00,000$$

$$\text{or, } x = ₹ 1,20,00,000$$

$$\text{No. of units to be sold} = \frac{1,20,00,000}{200} = 60,000 \text{ units}$$

$$\text{(v) If break-even point is to be brought down by 4,000 units then break-even point will be } 12,000 \text{ units} - 4000 \text{ units} = 8,000 \text{ units}$$

$$\text{Fixed Cost} = ₹ 6,00,000$$

$$\text{Required Contribution per unit} = \frac{6,00,000}{8,000 \text{ units}} = ₹ 75$$

$$\text{Selling Price} = \frac{\text{Contribution per unit}}{\text{P/V ratio}} = \frac{₹ 75}{25\%} = ₹ 300 \text{ per unit}$$

(assuming PV ratio will remain as 25%)

Hence, selling price per unit shall be ₹ 300 if break-even point is to be brought down by 4000 units.

(b) H Limited  
Statement of Reconciliation for the year ended 31<sup>st</sup> March, 2012

Sr. No.	Particulars	Amount (₹)	Amount (₹)
	Net loss as per Cost Accounts		(35,400)
	<b>Add :</b>		
1.	Factory overheads over recovered	1,35,000	
2.	Dividend received	20,000	
3.	Bank interest received	13,600	
4.	Difference in value of opening stock (1,65,000 - 1,45,000)	20,000	
5.	Difference in value of closing stock (1,32,000 - 1,25,500)	6,500	
6.	Notional rent of own premises	60,000	2,55,100
	<b>Less :</b>		
1.	Administration overheads under recovered	25,500	
2.	Depreciation under charged	26,000	
3.	Loss due to obsolescence	16,800	
4.	Income tax provided	43,600	
5.	Goodwill written-off	25,000	
6.	Provision for doubtful debts	15,000	(1,51,900)
	Net Profit as per Financial Accounts		67,800

Ans.7.

(a) **Conflict in Profit versus Wealth Maximization Principle of the Firm**

Profit maximisation is a short-term objective and cannot be the sole objective of a company. It is at best a limited objective. If profit is given undue importance, a number of problems can arise like the term profit is vague, profit maximisation has to be attempted with a realization of risks involved, it does not take into account the time pattern of returns and as an objective it is too narrow.

Whereas, on the other hand, wealth maximization, is a long-term objective and means that the company is using its resources in a good manner. If the share value is to stay high, the company has to reduce its costs and use the resources properly. If the company follows the goal of wealth maximisation, it means that the company will promote only those policies that will lead to an efficient allocation of resources.

(b) There are certain steps involved in the budgetary control technique. They are as follows:

(i) **Definition of Objectives:** A budget being a plan for the achievement of certain operational objectives, it is desirable that the same are defined precisely. The objectives should be written out, the areas of control demarcated, and items of revenue and expenditure to be covered by the budget stated.

(ii) **Location of the key (or budget) factor:** There is usually one factor (sometimes there may be more than one) which sets a limit to the total activity. Such a factor is known as key factor. For proper budgeting, it must be located and estimated properly.

(iii) **Appointment of controller:** Formulation of a budget usually required whole time services of a senior executive known as budget controller; he must be assisted in this work by a budget committee, consisting of all the heads of department along with the Managing Director as the Chairman.

(iv) **Budget manual:** Effective budgetary planning relies on the provision of adequate information which is contained in the budget manual. A budget manual is a collection of documents that contains key information for those involved in the planning process.

(v) **Budget period:** The period covered by a budget is known as budget period. The Budget Committee determines the length of the budget period suitable for the business. It may be months or quarters or such periods as coincide with period of trading activity.

(vi) **Standard of activity or output:** For preparing budgets for the future, past statistics cannot be completely relied upon, for the past usually represents a combination of good and bad factors. Therefore, though results of the past should be studied but these should only be applied when there is a likelihood of similar conditions repeating in the future.

(c) **Business Risk and Financial Risk**

Business risk refers to the risk associated with the firm's operations. It is an unavoidable risk because of the environment in which the firm has to operate and the business risk is represented by the variability of earnings before interest and tax (EBIT). The variability in turn is influenced by revenues and expenses. Revenues and expenses are affected by demand of firm's products, variations in prices and proportion of fixed cost in total cost.

Whereas, financial risk refers to the additional risk placed on firm's shareholders as a result of debt use in financing. Companies that issue more debt instruments would have higher financial risk than companies financed mostly by equity. Financial risk can be measured by ratios such as firm's financial leverage multiplier, total debt to assets ratio etc.

**(d) Forms of Bank Credit**

Some of the forms of bank credit are:

- (i) **Short Term Loans:** In a loan account, the entire advance is disbursed at one time either in cash or by transfer to the current account of the borrower. It is a single advance and given against securities like shares, government securities, life insurance policies and fixed deposit receipts, etc.
- (ii) **Overdraft:** Under this facility, customers are allowed to withdraw in excess of credit balance standing in their Current Account. A fixed limit is therefore granted to the borrower within which the borrower is allowed to overdraw his account.
- (iii) **Clean Overdrafts:** Request for clean advances is entertained only from parties which are financially sound and reputed for their integrity. The bank has to rely upon the personal security of the borrowers.
- (iv) **Cash Credits:** Cash Credit is an arrangement under which a customer is allowed an advance up to certain limit against credit granted by bank. Interest is not charged on the full amount of the advance but on the amount actually availed of by him.
- (v) **Advances against goods:** Goods are charged to the bank either by way of pledge or by way of hypothecation. Goods include all forms of movables which are offered to the bank as security.
- (vi) **Bills Purchased/Discounted:** These advances are allowed against the security of bills which may be clean or documentary.  
Usance bills maturing at a future date or sight are discounted by the banks for approved parties. The borrower is paid the present worth and the bank collects the full amount on maturity.
- (vii) **Advance against documents of title to goods:** A document becomes a document of title to goods when its possession is recognised by law or business custom as possession of the goods like bill of lading, dock warehouse keeper's certificate, railway receipt, etc. An advance against the pledge of such documents is an advance against the pledge of goods themselves.
- (viii) **Advance against supply of bills:** Advances against bills for supply of goods to government or semi-government departments against firm orders after acceptance of tender fall under this category. It is this debt that is assigned to the bank by endorsement of supply bills and executing irrevocable power of attorney in favour of the banks for receiving the amount of supply bills from the Government departments.

**(Note:** Students may answer any four of the above forms of bank credit.)

**(e) “Financing a business through borrowing is cheaper than using equity”**

- (i) Debt capital is cheaper than equity capital from the point of its cost and interest being deductible for income tax purpose, whereas no such deduction is allowed for dividends.
- (ii) Issue of new equity dilutes existing control pattern while borrowing does not result in dilution of control.
- (iii) In a period of rising prices, borrowing is advantageous. The fixed monetary outgo decreases in real terms as the price level increases.

