

MOCK TEST PAPER – 1
INTERMEDIATE (IPC): GROUP – I
PAPER – 3: COST ACCOUNTING AND FINANCIAL MANAGEMENT
PART – I : COST ACCOUNTING
SUGGESTED ANSWERS/HINTS

1. (a) Computation of Break-even Point (BEP) for each factory separately
 (i)

Sl no.		Factory A (₹)	Factory B (₹)
I	Selling Price per packet	75	75
II	Variable cost per packet	60	65
III	Contribution per packet [I-II]	15	10
IV	P/V ratio [III/I x 100] (%)	20	13.33
V	Fixed cost	3,10,000	2,15,000
VI	BEP (units) [V/III]	20,667	21,500
VII	BEP (Sales) [VI/ IV]	15,50,000	16,12,500

- (ii) Cash BEP (units)

$$= \frac{\text{Fixed cost} - \text{Depreciation}}{\text{Contribution per unit}}$$

$$\text{Factory A} = \frac{3,10,000 - 40,000}{15} = 18,000 \text{ packets}$$

$$\text{Factory B} = \frac{2,15,000 - 38,000}{10} = 17,700 \text{ packets}$$

- (iii) Computation of combined Break-even Point (units)

$$= \frac{\text{Combined Fixed cost}}{\text{Combined Contribution per unit}}$$

$$= \frac{3,10,000 + 2,15,000}{15 \times \frac{1}{3} + 10 \times \frac{2}{3}} = \frac{5,25,000}{11.666} = 45,000 \text{ packets}$$

(b) Statement showing the Issue Rate of Chemicals

	<u>Chemicals</u>		
	A (₹)	B (₹)	C (₹)
Purchase Price	12,600	19,000	9,500
Add: Central Sales Tax @ 2% of purchase price (Refer to Working Note 2)	252	380	190
Add: Railway Freight in the ratio of 3:5:2 (Refer to Working Note 3)	300	500	200
Add: Octroi @ ₹ 0.10 per kg. On the quantity of material received (Refer to Working Note 1)	280	472	190
Add: Cartage	22	63.12	31.80
Total Price	<u>13,454</u>	<u>20,415.12</u>	<u>10,111.8</u>

$$\text{Rate of issue per Kg} = \frac{\text{Total price}}{\text{Qty. available for issue}}$$

	<u>₹13,454</u>	<u>₹ 20,415.12</u>	<u>₹10,111.80</u>
	2,660 kg	4,484 kg	1,805 kg.
	= ₹ 5.06	= ₹ 4.55	= ₹ 5.60

Working Notes:

1 Statement showing the quantity of chemicals available for issue

	<u>Chemicals</u>		
	A Kg.	B Kg.	C Kg.
Quantity purchased	3,000	5,000	2,000
Less: Shortage (Assumed to be normal)	<u>200</u>	<u>280</u>	<u>100</u>
Quantity received at the store	2,800	4,720	1,900
Less: Provision for further deterioration 5%	<u>140</u>	<u>236</u>	<u>95</u>
Quantity available for issue	<u>2,660</u>	<u>4,484</u>	<u>1,805</u>

2. Rate of sales Tax = $\frac{\text{Central Sales Tax}}{\text{Total Purchase price of Chemicals}} \times 100 = \frac{₹822}{₹41,100} \times 100 = 2\%$

3. Railway Freight: It has been charged on the basis of quantity purchased i.e. A: 3000 kg; B: 5000 kg; C: 2000 kg in the ratio of 3:5:2.

2. (a) Calculation of Total Cost and Selling Price

	Job XYZ (₹)		Job MNO (₹)
Direct material	15,400		10,800
Direct labour			
Department A (20 x ₹76)	1,520	(16 x ₹ 76)	1,216
Department B (12 x ₹70)	840	(10 x ₹70)	700
Department C (10 x ₹ 68)	680	(14 x ₹68)	952
Total Direct cost	18,440		13,668
Overhead:			
Department A (20 x ₹12.86)	257.20	(16 x ₹12.86)	205.76
Department B (12 x ₹12.40)	148.80	(10 x ₹12.40)	124.00
Department C (10 x ₹ 14.03)	140.30	(14 x ₹ 14.03)	196.42
Total cost	18,986.30		14,194.18
Profit (note)	6,328.77		4,731.39
Quoted selling price	25,315.07		18,925.57

Note: If profit is 25% on selling price this is the same as 33 1/3 % (25/75) on cost.

	(₹)
Selling price	100
Cost	75
Profit	25

- (b) **Normal wastage:** It is defined as the loss of material which is inherent in the nature of work. Such wastage can be estimated in advance on the basis of past experience or technical specifications. If the wastage is within the specified limit, it is considered as normal.

When the wastage fetches no value, the cost of normal wastage is absorbed by good production units of the process and the cost per unit of good production is increased accordingly. If the normal wastage realises some value, the value is credited to the process account to arrive at normal cost of normal output.

Abnormal wastage: It is defined as the wastage which is not inherent to manufacturing operations. This type of wastage may occur due to the carelessness of workers, faulty planning, design etc. Such wastage cannot be estimated in advance. In other words any wastage in excess of normal wastage is abnormal wastage.

The units representing abnormal wastage are valued like good units produced and debited to the separate account which is known as abnormal wastage account. If the abnormal wastage fetches some value, the same is credited to abnormal wastage account. The balance of abnormal wastage account i.e. difference between value of units representing abnormal wastage minus realisation value is transferred to Costing Profit and Loss account for the year.

3. (a) Calculation of Variances

(i) Material Price Variance = Actual Quantity (Std. Price – Actual Price)

$$A = 12,500 (\text{₹ } 4 - \text{₹ } 4.40) = \text{₹ } 5,000 \text{ (A)}$$

$$B = 18,000 (\text{₹ } 3 - \text{₹ } 2.80) = \text{₹ } 3,600 \text{ (F)}$$

$$C = 88,500 (\text{₹ } 1 - \text{₹ } 1.20) = \text{₹ } 17,700 \text{ (A)}$$

$$\underline{\text{₹ } 19,100 \text{ (A)}}$$

(ii) Material Mix Variance = Std. Price (Revised Std. Quantity – Actual Quantity)

$$\begin{aligned} A &= \text{₹ } 4 \left(1,19,000 \times \frac{2}{20} - 12,500 \right) \\ &= \text{₹ } 4 (11,900 - 12,500) = \text{₹ } 2,400 \text{ (A)} \end{aligned}$$

$$\begin{aligned} B &= \text{₹ } 3 \left(1,19,000 \times \frac{3}{20} - 18,000 \right) \\ &= \text{₹ } 3 (17,850 - 18,000) = \text{₹ } 450 \text{ (A)} \end{aligned}$$

$$\begin{aligned} C &= \text{₹ } 1 \left(1,19,000 \times \frac{15}{20} - 88,500 \right) \\ &= \text{₹ } 1 (89,250 - 88,500) = \text{₹ } 750 \text{ (F)} \\ &\underline{\text{₹ } 2,100 \text{ (A)}} \end{aligned}$$

(iii) Labour Rate Variance = Actual Hours (Std. Rate – Actual Rate)

$$(\text{excess payment hours only}) = 2,500 (\text{₹ } 8 - \text{₹ } 12) = \text{₹ } 10,000 \text{ (A)}$$

(iv) Labour Efficiency Variance = Std. Rate (Std. Hours – Actual Hours)

$$= \text{₹ } 8 (6000 \times 3 - 17,500) = \text{₹ } 4,000 \text{ (F)}$$

(b) **Cost Centre:** The term Cost Centre is defined as a location, person or an item of equipment or a group of those for which costs may be ascertained and used for the purposes of cost control. Cost centres can be personal cost centres, impersonal cost centres, operation cost centres and process cost centres.

Cost Unit: The term Cost Unit is defined as a unit of quantity of product, service or time (or a combination of these) in relation to which costs may be ascertained or expressed. It can be for a job, batch, or product group.

4.

Contract Account of Superb Limited

(for the year ending 30th June, '13)

	(₹)		(₹)
To Materials	1,00,000	By Work-in Progress	
To Wages paid and accrued	50,000	- Work certified	2,00,000
To General expenses	10,000	- Work uncertified	15,000
To Plant depreciation	5,000	By Materials on hand	25,000
To Notional Profit c/d	80,000	By Contract Escalation	5,000
		(See note 1)	
	2,45,000		2,45,000
To Profit & Loss A/c (See note 2)	20,000	By Notional Profit b/d	80,000
To Reserve A/c	60,000		
	80,000		80,000

Working Note:

1. Calculation of Escalation:

	Total Increase	Upto 5%	Beyond 5%
	(₹)	(₹)	(₹)
Materials: (Effect of increase in price) $(₹ 1,00,000 - ₹ 25,000) \times \frac{25}{125}$	15,000	3,000	12,000
Wages (Effect of increase in wage rates) $\left(₹ 50,000 \times \frac{25}{125} \right)$	10,000	2,000	8,000
Total Increase	25,000	5,000	20,000

Increase in Contract price = 25% of Increase in Material and wages beyond 5%
= 25% of ₹ 20,000 = ₹ 5,000

2. Calculation of Profit to be transferred:

Since the contract is completed between 25% to 50%, one third of the notional profit as reduced by the proportion of cash received to work certified is transferred:

$$\text{Notional profit} \times \frac{1}{3} \times \frac{\text{Cash received}}{\text{Work certified}}$$

$$₹ 80,000 \times \frac{1}{3} \times \frac{₹ 1,50,000}{₹ 2,00,000} = ₹ 20,000$$

5. (i) Cost Sheet of Chrome Ltd. for 10,000 units*
(for the year ended 31st Dec., 2012)

	Cost per unit	Total Cost
	(₹)	(₹)
Material	13.00	1,30,000
Labour	7.50	75,000
Factory Overheads		
60% of Labour Cost	<u>4.50</u>	<u>45,000</u>
Factory Cost	25.00	2,50,000
Administrative Overheads		
20 % of Factory cost	<u>5.00</u>	<u>50,000</u>
Total Cost of Production	<u>30.00</u>	<u>3,00,000</u>

(ii) Statement of Profit or Loss as per Cost Accounts
(for the year ended 31st Dec., 2012)

	No. of Units	Amount (₹)
Opening stock of finished goods; 500 x ₹ 22.50	500	11,250
Add: Cost of Production at ₹ 30 per unit	<u>10,000</u>	<u>3,00,000</u>
Total	10,500	3,11,250
Less: Closing stock of finished goods @ ₹30 per unit	<u>250</u>	<u>7,500</u>
Cost of goods sold	10,250	3,03,750
Selling expenses @ ₹ 3 per unit	<u>10,250</u>	<u>30,750</u>
Cost of sales	10,250	3,34,500
Sales revenue	10,250	<u>3,58,750</u>
Profit		<u>24,250</u>

(iii) **Statement showing the Reconciliation of Profit or Loss
as shown by Cost and Financial Account**

	(₹)	(₹)
Profit as per Cost Accounts	--	24,250
Add: Selling expenses over-absorbed (₹ 30,750 – ₹ 27,500)	3,250	
Overvaluation of opening stock in Cost Accounts (₹ 11,250 – ₹ 8,750)	2,500	
Income excluded Cost Accounts:		
Interest	125	
Rent received	<u>5,000</u>	<u>10,875</u>
		35,125
Less: Under recovery of overheads in Cost Accounts		
Factory overheads:		
(₹ 47,375 – ₹ 45,000)	2,375	
Administrative Overheads (₹ 53,000 – ₹ 50,000)	3,000	
Over valuation of closing stock in Cost Accounts: (₹ 7,500 – ₹ 6,250)	1,250	
Expenses excluded from Cost Accounts:		
Bad Debts	2,000	
Preliminary expenses	<u>2,500</u>	<u>11,125</u>
Profit as per financial accounts		<u>24,000</u>

* Produced Units = Sold units + Closing Stock – Opening Stock

$$10000 = 10250 + 250 - 500$$

6. (a) **Job Costing and Batch Costing** : According to Job Costing, costs are collected and accumulated according to jobs. Each job or unit of production is treated as a separate entity for the purpose of costing. Job Costing may be employed when jobs are executed for different customers according to their specifications.

Batch Costing is a form of Job Costing, a lot of similar units which comprises the batch may be used as a cost unit for ascertaining job. Such a method of costing is used in case of pharmaceutical industry readymade garments industries, manufacturing parts of TV, radio sets etc.

- (b) **Scope of Cost Reduction**: Cost reduction is attainable in almost all areas of business activities. There is perhaps no situation which cannot be improved. It

covers a wide range like new layout, product design, production methods, materials and machines in factories as well as in offices, innovation in marketing, etc. It also extends to specified activities like purchasing, handling, packaging, shipping, warehousing, marketing, use of administrative facilities and even utilisation of financial resources.

Excessive cost may result in every organisation from:

- (a) Lack of information about raw materials, processes, products, components etc.
- (b) Lack of utilisation of ideas generated from performance and economic analysis.
- (c) Honest but wrong beliefs that certain things are impossible for achievement.
- (d) Temporary circumstances like features developed under pressure or modifications made to meet certain circumstances.
- (e) Habits and attitudes of confining to one conventional method.

It is not necessary for management to proceed in any specific sequence in considering the various aspects of cost reduction and it may be necessary to start the campaign in more than one direction at the same time.

7. Statement showing cost per patient day

Particulars	Amount (₹)
A. <u>Variable Cost</u>	
Food Supplied to patients (₹ 72 × 5,600*)	4,03,200
Laundry charges (₹ 30 × 5,600)	1,68,000
Medicines (₹ 60 × 5,600)	3,36,000
Expert doctors fee (₹ 250 × 5,600)	14,00,000
	23,07,200
B. <u>Fixed Cost</u>	
Rent of the premises (₹ 15,000 × 12)	1,80,000
Repairs & Maintenance	10,000
Administrative expenses	72,000
Salary expenses:	
- Supervisors (2 × ₹ 2,000 × 12)	48,000
- Nurses (4 × ₹ 1,500 × 12)	72,000
- Ward Boys (2 × ₹ 1,200 × 12)	28,800
	4,10,800

C	Total Cost (A + B)	27,18,000
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* Refer to working note -1

- (i) Fee should have been charged to earn 75% profit on fees received

Let fee charged is 'X', then profit will be 0.75 X

Total fee: $X - 0.75 X = ₹ 27,18,000$

Or, $X = 1,08,72,000$

Fee should have been charged for per patient -day = $\frac{₹ 1,08,72,000}{5,600} = ₹ 1941.43$

- (ii) Break-Even number of patients = $\frac{\text{Total Fixed Cost}}{\text{Contribution per patient - day}}$
- $$= \frac{₹ 4,10,800}{₹ 1,529.43^{**}} = 268.60 \text{ or } 269 \text{ Patient - day}$$

** Contribution = Fees (as calculated above) – Variable cost per patient-day

$= ₹ 1941.43 - \frac{₹ 23,07,200}{5,600} = ₹ 1529.43$

Working note:

- Number of Patient-day = No. of beds × Occupancy rate × No. of days
 $= (20 \text{ beds} \times 100\% \times 200 \text{ days}) + (20 \text{ beds} \times 80\% \times 100 \text{ days})$
 $= 4,000 + 1,600 = 5,600 \text{ Patient-day}$

MOCK TEST – I
INTERMEDIATE (IPC) – GROUP – I
PAPER – 3: COST ACCOUNTING AND FINANCIAL MANAGEMENT
PART – II : FINANCIAL MANAGEMENT

SUGGESTED ANSWERS/HINTS

1. (i) Inflation is one of the many reasons which accounts for the time value of money. Hence it is wrong to say that in a period of no inflation, the time value of money will be zero.
- (ii) The three aspects of management of sundry debtors are as follows;
 - Credit policy
 - Credit analysis
 - Control of receivable
- (iii) The factors to be considered for determining the life of the project are:
 - Technological obsolescence
 - Physical deterioration
 - A decline in demand for the output of the project.
2. (a)

	₹	₹
Current level of debtors = $1600000 \times 45/365$ x Proposed level of debtors:		197260
Not taking the discount = $60\% \times 1600000 \times 45/365 =$	118356	
Taking the discount = $40\% \times 1600000 \times 10/365 =$	17534	
		135890
Change in level of debtors		61370
Saving in financing costs = $61370 \times 11\% =$		6751
Administrative cost savings		4450
Total savings		11201

Calculation of maximum discount:

$$1600000 \times 40\% \times \text{maximum discount} = 11201$$

$$\text{Hence maximum discount} = 11201 / (1600000 \times 0.4) = 0.0175 \text{ or } 1.75\%$$

The maximum discount that could be offered is therefore 1.75%.

(b) (i) Liquidity ratios

- (a) Current ratio = CA/CL = ₹ 25,88,000/₹ 6,40,000 = 4.04 : 1 (previous year);
₹ 30,52,000/₹ 8,00,000 = 3.82 : 1 (current year)
- (b) Acid test ratio = (₹ 25,88,000 – ₹ 18,68,000)/₹ 6,40,000 = 1.125 : 1
(previous year); (₹ 30,52,000 – ₹ 21,72,000)/₹ 8,00,000 = 1.1 : 1 (current
year)

(ii) Solvency ratios

(a) Debt-equity ratios

- (1) Total outside debts/Equity funds = ₹ 22,40,000/₹ 24,68,000
= 0.91(previous year) : ₹ 24,00,000/₹ 28,12,000 = 0.85 (current year)
- (2) Long-term debts/Equity funds = ₹ 16,00,000/₹ 24,68,000
= 0.65 (previous year); ₹ 16,00,000/₹ 28,12,000 = 0.57 (current year)

(b) Interest coverage ratio

$$= \text{EBIT} / \text{Interest charges} = ₹ 12,00,000 / ₹ 1,60,000 = 7.5 \text{ times (current year)}$$

(iii) Profitability ratios (current year)

- (a) Gross profit ratio = (Gross profit/sales) × 100 =
(₹ 12,00,000/₹ 40,00,000) × 100 = 30 per cent
- (b) Net profit ratio = (Net profit/sales) × 100 = (₹ 6,76,000/₹ 40,00,000) × 100
= 16.9 per cent
- (c) Return on total resources = (EAT + Interest – Tax savings on
interest)/Total assets × 100 = [(₹ 6,76,000 + ₹ 1,60,000 –
₹ 56,000)/₹ 64,00,000] × 100 = 12.2 per cent
- (d) Return on capital employed = [(EAT + Interest – Tax savings on
interest)/Total assets] × 100 = [(₹ 6,76,000 + ₹ 1,60,000 –
₹ 56,000)/₹ 44,12,000] × 100 = 17.7 per cent
- (e) Return on equity funds = (Net profit after taxes/Equity funds) × 100 =
(₹ 6,76,000/₹ 28,12,000) × 100 = 24 per cent.

(Note: Ratios (c), (d) and (e) can also be determined by taking average total
assets/capital employed/equity funds.)

(iv) Activity ratios

- (a) Debtors turnover = ₹ 40,00,000/₹ 3,60,000 = 11.1 times
- (b) Stock turnover = ₹ 28,00,000/₹ 20,00,000 = 1.4 times
- (c) Total assets turnover = ₹ 28,00,000/₹ 64,00,000 = 0.44 times

Comment: The company's position is quite sound from the point of view of liquidity, solvency and profitability. However, its activity ratios, particularly in term of the utilisation of total assets and holding of stocks, do not seem to be satisfactory.

3. (a) (1) (i) Issued at par

$$\frac{\text{₹ } 30,000}{\text{₹ } 2,00,000} \times (1 - 0.35) = 9.75\%$$

- (ii) Issued at discount

$$\frac{\text{₹ } 30,000}{\text{₹ } 1,80,000} \times (1 - 0.35) = 10.83\%$$

- (iii) Issued at premium

$$\frac{\text{₹ } 30,000}{\text{₹ } 2,20,000} \times (1 - 0.35) = 8.86\%$$

- (2) If brokerage is paid @ 2% and debentures issued at par

$$\frac{\text{₹ } 30,000}{1,96,000} \times (1 - 0.35) = 9.94\%$$

- (b) EBIT = ₹ 3,00,000

Less: Interest = ₹ 10,00,000 × 10% = ₹ 1,00,000

Earnings available to equity shareholders = ₹ 2,00,000

Equity capitalization rate = 12.5%

$$\text{Market value of equity} = \frac{\text{₹ } 2,00,000}{12.5\%} = \text{₹ } 16,00,000$$

Market value of debt = ₹ 10,00,000

Market value of the firm = ₹ 26,00,000

$$\text{Overall cost of capital} = \frac{\text{₹ } 3,00,000 \times 100}{\text{₹ } 26,00,000} = 11.53\%$$

4. (a) The investment decision relates to that area of responsibility of the finance manager, where he is expected to select new investments and manage the existing assets properly.

The financing decision relates to that area of activity of a finance manager where he is concerned with determining the best financing mix or capital structure.

The dividend decision includes the percentage of earnings paid to stockholders in cash dividends, the stability of absolute dividends about a trend, stock dividends and splits and the repurchase of stock.

(b) Calculation of Net Operating Cycle period

	Days
Raw material storage period	30
WIP holding period	22
Finished goods storage period	18
Debtors collection period	45
Total operating cycle period	115
Less: Average credit period availed	30
Net operating cycle period	85
Number of operating cycles in a year	4.2

(c) $F_n = R (1 + i/m)^{n \cdot m} = P \times FVIF_{i/m, n, m}$

- (i) Annual compounding ($m = 1$) : $F_5 = ₹100 (1 + 0.08/1)^5 = ₹100(1.4693) = ₹146.93$
- (ii) Semi-annual compounding ($m = 2$) : $F_5 = ₹100 (1 + 0.08/2)^{5 \times 2} = P \times FVIF_{4, 10} = ₹100 (1.4802) = ₹148.02$
- (iii) Quarterly compounding ($m = 4$) : $F_5 = ₹100 (1 + 0.08/4)^{5 \times 4} = P \times FVIF_{2, 20} = ₹100 (1.4859) = ₹148.59$
- (iv) Continuous compounding: $F_n = F \times e^{i \times n} = f_5 = ₹100 (2.71828)^{0.08 \times 5} = ₹100 (2.71828)^{0.4} = ₹100 (1.4918) = ₹149.18$.