

Gurukripa's Guideline Answers to Nov 2016 Exam Questions CA Inter (IPC) Cost Accounting & Financial Management

Working Notes should form part of the answers. Question No.1 is compulsory (**4 × 5 = 20 Marks**).

Answer **any five** questions from the **remaining six** questions (**16 × 5 = 80 Marks**). [Answer any 4 out of 5 in Q.7]

Note: Numbers for Page References are given as under –

Book Title	Referred as
Padhuka's Students Handbook on Cost Accounting and Financial Management	Handbook
Padhuka's Cost Accounting and Financial Management – A Practical Guide	Practical Guide

Question 1(a): Computing PVR, BEP, Profits, etc.

5 Marks

The following figures are available for the records of ABC Company as at 31st March.

Year	2015 (₹ in Lakhs)	2016 (₹ in Lakhs)
Sales	200	250
Profit	30	45

Calculate: (a) PV Ratio & Total Fixed Expenses, (b) Break-Even Level of Sales, (c) Sales required to earn a Profit of ₹ 70 Lakhs.

Solution:

Similar to Handbook Page 11.17 Q.No.9 [M 10]

Marginal Cost Statement (filled up after computing PVR WN 1) (₹ in Lakhs)

Particulars	2015	2016
Sales	(Given) = 200.00	(Given) = 250.00
Less: Variable Costs	(bal. fig.) = (Sales – Contrib.) = 140.00	(bal. fig.) = (Sales – Contrib.) = 175.00
Contribution	(at 30% See WN 1) = 60.00	(at 30% See WN 1) = 75.00
Less: Fixed Costs	(bal. fig.) = (Contrib. – Profit) = 30.00	(bal. fig.) = (Contrib. – Profit) = 30.00
Profit /(Loss)	(Given) = 30.00	(Given) = 45.00

$$1. \text{ PVR} = \frac{\text{Change in Profit}}{\text{Change in Sales}} \times 100 = \frac{45(-)30}{250(-)200} = \mathbf{30\%}. \quad \text{Total Fixed Expenses} = \mathbf{₹ 30 \text{ Lakhs}}$$
 (from above Table)

$$2. \text{ BES} = \frac{\text{Fixed Costs}}{\text{PVR}} = \frac{₹ 30 \text{ Lakhs}}{30\%} = \mathbf{₹ 100 \text{ Lakhs}}.$$

$$3. \text{ Sales required to earn a profit of ₹ 70 Lakhs} = \frac{\text{Desired Contribution}}{\text{PV Ratio}} = \frac{\text{Fixed Cost} + \text{Desired Profit}}{\text{PV Ratio}} = \frac{₹ 30 \text{ Lakhs} + ₹ 70 \text{ Lakhs}}{30\%} = \mathbf{₹ 333.33 \text{ Lakhs}}$$

Question 1(b): EOQ and Stock Levels

5 Marks

Supreme Limited is a Manufacturer of energy saving bulbs. To manufacture the Finished Product, one unit of component 'LED' is required. Annual requirement of component 'LED' is 72,000 units, the cost being ₹ 300 p.u. Other details for 2015–2016 are –

Cost of Placing an Order ₹ 2,250 per order	Carrying Cost of Inventory 12% per annum
Lead Time –	Consumption –
• Maximum 20 days	• Maximum 400 units per day
• Minimum 8 days	• Minimum 200 units per day
• Average 14 days	• Average 300 units per day
• Emergency Purchase 5 days	

Calculate: (a) Re-Order Quantity, (b) Re-Order Level, (c) Minimum Stock Level, (d) Maximum Stock Level, & (e) Danger Level.

Solution:

Similar to Practical Guide Page 2.17 Q.No.31 [RTP, M 96]

$$1. \text{ EOQ} = \sqrt{\frac{2AB}{C}}, \text{ where}$$

A = Annual Requirement of Raw Materials = 72,000 units (given)

B = Buying Cost per order = ₹ 2,250 per order (given)

C = Carrying Cost per unit per annum = 12% × ₹ 300 = ₹ 36 p.u. p.a. (given)

On substitution, **EOQ = 3,000 units** = ROQ.

2. Re-Order Level	= Maximum Usage × Maximum Lead Time = 400 × 20	= 8,000 units.
3. Minimum Level	= ROL – (Average Usage × Average Lead Time) = 8,000 – (300 × 14)	= 3,800 units.
4. Maximum Level	= ROL + ROQ – (Min. Usage × Min. Lead Time) = 8,000 + 3,000 – (200 × 8)	= 9,400 units.
5. Danger Level	= Min. Usage × Emergency Purchase Time = 200 × 5 days (or) = Average Consumption during Emergency Period = 300 units × 5 days (or) = Min. Usage × Min. Lead Time = 200 × 8 days. (See Note)	= 1,000 units or = 1,500 units or = 1,600 units

Note: The computation using Emergency Purchase Period of 5 days is more appropriate in this case.

Question 1(c): Computation of Equity, Debt

5 Marks

ABC Company's Equity Share is quoted in the market at ₹ 25 per Share currently. The Company pays a dividend of ₹ 2 per Share and the Investor's Market expects a growth rate of 6% per year. You are required to:

- Calculate the Company's Cost of Equity Capital.
- If the anticipated Growth Rate is 8% per annum, calculate the indicated Market Price per Share.
- If the Company issues 10% Debentures of Face Value of ₹ 100 each and realizes ₹ 96 per Debenture while the Debentures are redeemable after 12 years at a premium of 12%, what will be the Cost of Debentures? [Tax = 50%]

Solution:

Similar to Practical Guide Page 18.4 Q.No.7 and Page 18.13 Q.No.24

$$1. K_e = \frac{\text{Dividend per Share}}{\text{Market Price per Share}} + g = \frac{DPS_1}{MPS_0} + g = \frac{₹ 2 \times (1+6\%)}{₹ 25} + 6\% = 8.48\% + 6\% = \mathbf{14.48\%}$$

$$2. K_e = \frac{DPS_1}{MPS_0} + g = 14.48\% \text{ (from above).} \quad \text{[Note: Same } K_e \text{ as computed above is considered. Also, same DPS.]}$$

On substitution, $\frac{₹ 2 \times (1+8\%)}{MPS} + 8\% = 14.48\%$. On solving this equation, $MPS = \mathbf{₹ 33.33}$

$$3. K_d = \frac{\text{Interest (100\% - Tax Rate)} + \frac{RV - NP}{\text{No of years}}}{\frac{RV + NP}{2}} = \frac{100 \times 10\% \times (100\% - 50\%) + \frac{112(-)96}{12 \text{ years}}}{\frac{112 + 96}{2}} = \mathbf{6.09\%}$$

Question 1(d): EPS and Leverage – Basic Computations

5 Marks

The following information related to YZ Company Ltd for the year ended 31st March 2016:

Equity Share Capital of ₹ 10 each	₹ 50 Lakhs
12% Bonds of ₹ 1,000 each	₹ 37 Lakhs
Sales	₹ 84 Lakhs
Fixed Cost (excluding Interest)	₹ 6.96 Lakhs
Financial Leverage	1.49
Profit-Volume Ratio	27.55%
Income Tax Rate Applicable	40%

Calculate – (a) Operating Leverage, (b) Combined Leverage, and (c) Earnings Per Share. [upto two decimal points].

Solution:

Similar to Handbook Page 17.14 Q.No.12 [M 13]

Particulars	₹
Contribution at 27.55% on Sales of ₹ 84,00,000	23,14,200
Less: Fixed Cost	6,96,000
EBIT	16,18,200
Less: Interest Expense: on Bonds (12% of ₹ 37,00,000) 4,44,000 on Other Debt (balancing figure) 88,160	16,18,200 – 10,86,040 = 5,32,160
EBT [See Note below]	10,86,040
Less: Tax @ 40%	4,34,416
EAT	6,51,624

$$1. \text{ Operating Leverage} = \frac{\text{Contribution}}{\text{EBIT}} = \frac{23,14,200}{16,18,200} = \mathbf{1.43 \text{ times.}}$$

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2. Combined Leverage = $\frac{\text{Contribution}}{\text{EBT}} = \frac{23,14,200}{10,86,040} = \mathbf{2.13 \text{ times}}$ [or DOL × DFL = 1.43 × 1.49 = 2.13 times]

3. EPS = $\frac{\text{EAT}}{\text{No. of Equity Shares}} = \frac{6,51,624}{5,00,000} = \mathbf{₹ 1.30 \text{ per Share.}}$

Note: Financial Leverage = $\frac{\text{EBIT}}{\text{EBT}} = \frac{16,18,200}{10,86,040} = 1.49$ (given). On solving, EBT = $\frac{16,18,200}{1.49} = \mathbf{₹ 10,86,040}$

Alternative: The Answers can be computed even by ignoring the DFL given in the Question 1.49 times. In such case, Interest will be only ₹ 4,44,000. Consequently, EBT, EAT, Combined Leverage and EPS will be ₹ 11,74,200, ₹ 7,04,520, 1.97 times and ₹ 1.41 respectively.

Question 2(a): Computation of Required Sales Value, Sale Price and MOS **8 Marks**

A Company has introduced a new product and marketed 20,000 units. Variable Cost of the product is ₹ 20 per unit and Fixed Overheads are ₹ 3,20,000. You are required to:

- Calculate Selling Price per unit to earn a profit of 10% on Sales Value, BEP and Margin of Safety.
- If the Selling Price is reduced by the Company by 10%, demand is expected to increase by 5000 units, then what will be its impact on Profit, BEP and Margin of Safety?
- Calculate Margin of Safety if Profit is ₹ 64,000.

Solution:

Similar to Practical Guide Page 11.2, Q.No.2 [N 07]

1. Present Sale Price, BEP and MOS:

Let Selling Price per unit = 'P'. So, Sales Value = 20,000 units × P = 20,000 P
 So, Profit at 10% = 20,000 P × 10% = 2,000 P
 Contribution per unit = Sale Price (–) Variable Cost = (P – 20)

The equation is Total Contribution – Fixed Cost = Profit.
 On substitution, we have 20,000 units × (P – 20) – 3,20,000 = 2,000 P
 On simplification, we have 20,000P – 4,00,000 – 3,20,000 = 2,000P
 On solving, 18,000P = 7,20,000, or **P = 40**. Hence, Required Sale Price = **₹ 40 pu**
 So, Sales Value = 20,000 units × ₹ 40 = **₹ 8,00,000**. Profit = 10% on Sales = **₹ 80,000**

BEQ = $\frac{\text{Fixed Costs}}{\text{Contribution per Unit}} = \frac{3,20,000}{(40 - 20)} = \mathbf{16,000 \text{ units.}}$ BES (₹) = 16,000 units × ₹ 40 pu = **₹ 6,40,000**

MOS (Qty) = Total Sales – BEQ = 20,000 – 16,000 = **4,000 units**. MOS (₹) = 4,000 units × ₹ 40 pu = **₹ 1,60,000**

2. Impact of Price Reduction on Profit, BEP and MOS:

New Sale Price = ₹ 40 less 10% = **₹ 36 pu**

Profit = Total Contribution (–) Fixed Costs
 = 25,000 units × (36 – 20) – 3,20,000 = **₹ 80,000**

BEQ = $\frac{\text{Fixed Costs}}{\text{Contribution per Unit}} = \frac{3,20,000}{(36 - 20)} = \mathbf{20,000 \text{ units.}}$ BES (₹) = 20,000 units × ₹ 36 pu = **₹ 7,20,000**

MOS (Qty) = Total Sales – BEQ = 25,000 – 20,000 = **5,000 units**. MOS (₹) = 5,000 units × ₹ 36 pu = **₹ 1,80,000**

3. MOS when Profit is ₹ 64,000:

Particulars	Situation 1:	Situation 2:
	Using Original Sale Price ₹ 40 pu	Using Revised Sale Price ₹ 36 pu
MOS Quantity = $\frac{\text{Profit}}{\text{Contribution p.u.}}$	$\frac{64,000}{(40 - 20)} = \mathbf{3,200 \text{ units}}$	$\frac{64,000}{(36 - 20)} = \mathbf{4,000 \text{ units}}$
MOS Sale Value = MOS Quantity × Price	3,200 units × ₹ 40 pu = ₹ 1,28,000	4,000 units × ₹ 36 pu = ₹ 1,44,000

Question 2(b): Balance Sheet using Ratios, and Working Capital Forecast **8 Marks**

The following figures and ratios pertain to ABG Company Limited for the year ending 31st March 2016:

Annual Sales (credit)	₹ 50,00,000	Current Ratio	1.5
Gross Profit Ratio	28%	Debtors Collection Period	45 days
Fixed Assets Turnover Ratio (based on Cost of Goods Sold)	1.5	Reserves & Surplus to Share Capital	0.60: 1
Stock Turnover Ratio (based on Cost of Goods Sold)	6	Capital Gearing Ratio	0.5
Quick Ratio	1 : 1	Fixed Assets to Net Worth	1.2: 1

Prepare the Balance Sheet as at 31st March 2016, based on the above information. Assume 360 days in a year.

Solution:

Similar to Handbook Page 14.18 Q.No.13 [M 10]

Balance Sheet of ABG Company Limited as on 31st March 2016

[Note: For ease of computation in tallying figures, T-shaped presentation is adopted. Since the scope of the question is on using Ratios and finding out missing values, Schedule III Presentation Requirements are not applied here.]

Liabilities	₹	Assets	₹
1. Shareholders' Funds:		1. Non-Current Assets: Fixed Assets (WN 3)	24,00,000
Share Capital (WN 6)	12,50,000	2. Current Assets:	
Reserves & Surplus (WN 6)	7,50,000	Stock (WN 4)	6,00,000
2. Non-Current Liabilities:		Debtors (WN 5)	6,25,000
Long-Term Loans (bal. fig)	10,00,000	Bank (WN 9)	5,75,000
3. Current Liabilities (WN 8)	12,00,000		18,00,000
Total	42,00,000	Total	42,00,000

Working Notes and Calculations

1. Gross Profit Ratio = 28% of Sales. So, **Gross Profit** = 28% × ₹ 50,00,000 = ₹ 14,00,000

2. **Cost of Goods Sold (COGS)** = Sales – Gross Profit = ₹ 50,00,000 – ₹ 14,00,000 = ₹ 36,00,000

3. Fixed Assets Turnover (based on COGS) = $\frac{\text{COGS}}{\text{Fixed Assets}} = \frac{₹ 36,00,000}{\text{Fixed Assets}} = 1.5 \text{ times.}$

Hence, **Fixed Assets** = $\frac{₹ 36,00,000}{1.5} = ₹ 24,00,000$

4. Stock Turnover = $\frac{\text{COGS}}{\text{Inventory}} = \frac{₹ 36,00,000}{\text{Inventory}} = 6 \text{ times. So, Inventory} = \frac{₹ 36,00,000}{6} = ₹ 6,00,000$

Note: In the absence of information, it is assumed that Opening Stock = Closing Stock = Average Stock.

5. Debt Collection Period = 45 days. So, **Debtors** = Sales × $\frac{45}{360} = ₹ 50,00,000 \times \frac{45}{360} = ₹ 6,25,000$

6. $\frac{\text{Fixed Assets}}{\text{Net Worth}} = \frac{₹ 24,00,000}{\text{Net Worth}} = 1.20.$

So, **Net Worth** = $\frac{₹ 24,00,000}{1.20} = ₹ 20,00,000$

Share Capital **Reserves & Surplus**
 $\frac{1}{1.6} = ₹ 12,50,000$ $\frac{0.6}{1.6} = ₹ 7,50,000$

7. Current Ratio = $\frac{\text{Current Assets}}{\text{Current Liabilities}} = 1.5 \text{ times. So, Current Assets} = 1.5 \times \text{Current Liabilities.}$

8. Quick Ratio = $\frac{\text{Quick Assets}}{\text{Quick Liabilities}} = 1 \text{ time. So, } \frac{\text{Current Assets} - \text{Stock}}{\text{Current Liabilities}} = 1.$

On substitution, $\frac{1.5 \times \text{Current Liabilities} - ₹ 6,00,000}{\text{Current Liabilities}} = 1$ On solving, we get, **Current Liabilities = ₹ 12,00,000**

9. Hence, Current Assets = 1.5 × 12,00,000 = ₹ 18,00,000

<p>↓ Inventory (WN 4) = ₹ 6,00,000</p>	<p>↓ Debtors (WN 5) = ₹ 6,25,000</p>	<p>↓ Cash and Bank (bal. fig) ₹ 5,75,000</p>
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10. **Verification** of Long Term Loans: Capital Gearing Ratio = $\frac{\text{Preference Capital} + \text{Debt}}{\text{Equity Shareholders Funds}} = \frac{\text{Nil} + 10,00,000}{20,00,000} = 0.5 \text{ times.}$

Note: In the absence of information, Share Capital = Equity Share Capital only. **Debt** is taken from B/s above.

Alternatively, using the Capital Gearing Ratio, Debt can be computed as balancing figure, (using Equity Shareholders' Funds from WN 6, and the Balance Sheet shall be found tallied.

Question 3(a): Reconciliation – Computing Costing Profits – WIP and FG Valuation **8 Marks**

The Trading and Profit and Loss Account of a Company for the year ended 31.03.2016 is as under:

Particulars	₹	Particulars	₹
To Materials	26,80,000	By Sales (50,000 units)	62,00,000
To Wages	17,80,000	By Closing Stock (2,000 units)	1,50,000
To Factory Expenses	9,50,000	By Dividend Received	20,000
To Administration Expenses	4,80,200		
To Selling Expenses	2,50,000		
To Preliminary Expenses written off	50,000		
To Net Profit	1,79,800		
Total	63,70,000	Total	63,70,000

In the Cost Accounts:

- (a) Factory Expenses have been allocated to production at 20% of Prime Cost,
- (b) Administration Expenses absorbed at 10% of Factory Cost.
- (c) Selling Expenses are charged at ₹10 per unit sold.

Prepare the Costing Profit and Loss Account of the Company and reconcile the Profit/Loss with the profit as shown in the Financial Accounts.

Solution:

Similar to Practical Guide Page 5.26 Q.No.14 [M 93]

1. Proforma Costing Profit and Loss Account

Particulars	₹	Particulars	₹
To Materials Consumed	26,80,000	By Sales	62,00,000
To Direct Labour	17,80,000		
Prime Cost	44,60,000		
To Production OH (20% of Prime Cost)	8,92,000		
Works Cost	53,52,000		
To Administration OH (10% of Factory Cost)	5,35,200		
Cost of Production (for 52,000 units)	58,87,200		
Less: Closing Stock of FG (See Note below)	(2,26,431)		
Cost of Goods Sold (for 50,000 units)	56,60,769		
To S & D OH (50,000 units × ₹ 10 pu)	5,00,000		
Cost of Sales	61,60,769		
To Profit transferred to GLA (balancing figure)	39,231		
Total	62,00,000	Total	62,00,000

Note: FG Valuation under Cost Records:

- Production Quantity = Sales + Closing Stock – Opening Stock = 50,000 + 2,000 – Nil = **52,000 units.**
- Current Cost of Production per unit = $\frac{₹ 58,87,200}{52,000 \text{ units}} = ₹ 113.215 \text{ per unit.}$
- Hence, Cost of Closing Stock of Finished Goods (at current cost) = 2,000 units × ₹ 113.215 per unit = **₹ 2,26,431**

2. Memorandum Reconciliation Account

Particulars	₹	Particulars	₹
To Incomes not considered in Cost A/cs – Dividends Received	20,000	By Profit as per Financial Records (given)	1,79,800
To Overabsorption of Overheads: – AOH (₹ 5,35,200 – ₹ 4,80,200)	55,000	By Expenses not considered in Cost A/cs – Preliminary Expenses written off	50,000
– SOH (₹ 5,00,000 – ₹ 2,50,000)	2,50,000	By Difference in Closing Fin. Goods Valuation (₹ 2,26,431 – ₹ 1,50,000)	76,431
To Profit as per Cost Records (bal. fig)	39,231	By POH underabsorbed (₹ 9,50,000 – ₹ 8,92,000)	58,000
Total	3,64,231	Total	3,64,231

Question 3(b): Financing Decision and EPS Maximisation**8 Marks**

India Limited requires ₹ 50,00,000 for a New Plant. This Plant is expected to yield Earnings before Interest and Taxes of ₹10,00,000. While deciding about the Financial Plan, the Company considers the objective of maximizing Earnings per Share. It has 3 alternatives to finance the Project – by raising Debt of ₹ 5,00,000 or ₹ 20,00,000 or ₹ 30,00,000 and the balance in each case, by issuing Equity Shares. The Company's Share is currently selling at ₹ 150, but it is expected to decline to ₹ 125 in case the funds are borrowed in excess of ₹ 20,00,000. The Funds can be borrowed at the rate of 9% upto ₹ 5,00,000, at 14% over ₹5,00,000 and upto ₹ 20,00,000 and at 19% over ₹ 20,00,000. The Tax rate applicable to the Company is 40%. Which form of financing should the Company choose? Show EPS Amount upto two decimal points.

Solution:**Similar to Practical Guide Page 18.18 Q.No.30 and Handbook Page 18.30 Q.No.28 [RTP]****Statement showing EPS under the different schemes**

Particulars	Scheme I	Scheme II	Scheme III
Capital Required	₹ 50,00,000	₹ 50,00,000	₹ 50,00,000
Less: Debt Content	₹ 5,00,000	₹ 20,00,000	₹ 30,00,000
Balance Equity Capital required	₹ 45,00,000	₹ 30,00,000	₹ 20,00,000
Market Price per Share	₹ 150	₹ 150	₹ 125
Number of Equity Shares to be issued = $\frac{\text{Equity Capital}}{\text{Issue Price, i.e. MPS}}$	30,000 Shares	20,000 Shares	16,000 Shares
EBIT (given)	₹ 10,00,000	₹ 10,00,000	₹ 10,00,000
Less: Interest on Debt	₹ 45,000	₹ 45,000	₹ 45,000
Upto ₹ 5,00,000 at 9%			
Over ₹ 5,00,000 upto ₹ 20,00,000 at 14% (₹ 15,00,000 × 14%)	–	₹ 2,10,000	₹ 2,10,000
Over ₹ 20,00,000 at 19% (₹10,00,000 × 19%)	–	–	₹ 1,90,000
Total Interest Cost	₹ 45,000	₹ 2,55,000	₹ 4,45,000
EBT	₹ 9,55,000	₹ 7,45,000	₹ 5,55,000
Less: Tax at 40%	₹ 3,82,000	₹ 2,98,000	₹ 2,22,000
EAT	₹ 5,73,000	₹ 4,47,000	₹ 3,33,000
(Incremental) EPS = $\frac{\text{EAT}}{\text{No. of Equity Shares}}$	₹ 19.10	₹ 22.35	₹ 20.81

Conclusion: EPS is maximum under Scheme II and is hence preferable.**Question 4(a): Fare Computation for Passenger Transport Service****8 Marks**

Royal Transport Company has been given a 50 kilometre long route to run 6 buses. The cost of each bus is ₹ 7,50,000. The buses will make 3 round trips per day carrying on an average 75% passengers of their seating capacity. The seating capacity of each bus is 48 passengers. The Buses will run on an average 25 days in a month. The other information for a year 2016–2017 is given below:

Garage Rent	₹ 6,000 per month
Annual Repairs and Maintenance	₹ 24,000 each bus
Salaries of 6 Drivers	₹ 4,000 each per month
Wages of 6 Conductors	₹ 1,600 each per month

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Wages of 6 Cleaners	₹ 1,000	each per month
Manager's Salary	₹ 10,000	per month
Road Tax, Permit Fee, etc.	₹ 6,000	for a quarter
Office Expenses	₹ 2,500	per month
Cost of Diesel per litre	₹ 66	
Kilometres run per litre for each bus	6 kilometres	
Annual Depreciation	20% of cost	
Annual Insurance	4% of cost	
Engine Oils & Lubricants (for 1000 Kilometres)	₹ 2,000	

Calculate the Bus Fare to be charged from each Passenger per Kilometre (upto four decimal points), if the Company wants to earn profit of 33.33% on Takings (Total Receipts from Passengers).

Solution:

Similar to Handbook Page 9.6 Q.No.6 [M 10]

- Number of Passengers = $48 \times 75\% = 36$.
 Number of Kilometres p.a. = $6 \text{ buses} \times 3 \text{ trips} \times 2 \text{ ways} \times 50 \text{ kms} \times 25 \text{ days} \times 12 \text{ months} = 5,40,000$.
 So, Total Number of Passenger-Kms p.a. = $36 \times 5,40,000 = 1,94,40,000$

2. Statement of Operating Costs and Revenues p.a.

Particulars		Computation	₹
Garage Rent	Fixed	(₹ 6,000 per month × 12 months)	72,000
Repairs & Maintenance	Fixed	(₹ 24,000 p.a. per bus × 6 buses)	1,44,000
Drivers' Salary	Fixed	(₹ 4,000 per month × 6 Drivers × 12 months)	2,88,000
Conductors' Wages	Fixed	(₹ 1,600 per month × 6 Conductors × 12 months)	1,15,200
Cleaners' Wages	Fixed	(₹ 1,000 per month × 6 Cleaners × 12 months)	72,000
Managers' Salary	Fixed	(₹ 10,000 per month × 12 months)	1,20,000
Road Tax, Permit Fee, etc.	Fixed	(₹ 6,000 per quarter × 4 quarters)	24,000
Office Expenses	Fixed	(₹ 2,500 per month × 12 months)	30,000
Diesel	Variable	$\frac{5,40,000 \text{ km}}{6 \text{ km}} \times ₹ 66 \text{ per litre}$	59,40,000
Depreciation	Fixed	₹ 7,50,000 × 6 buses × 20%	9,00,000
Insurance	Fixed	₹ 7,50,000 × 6 buses × 4%	1,80,000
Engine Oil and Lubricants	Variable	$\frac{5,40,000 \text{ km}}{1,000 \text{ km}} \times ₹ 2,000$	10,80,000
Total Operating Costs		100% – 33.33% = 66.67% of Takings	89,65,200
Add: Profit Margin		Given 33.33% of Takings	44,82,600
Total Takings		100%	1,34,47,800

- Fare per Passenger-Km = $\frac{₹ 1,34,47,800}{1,94,40,000} = ₹ 0.6918$ So, One-Way Fare per Passenger = $50 \text{ km} \times ₹ 0.6918 = ₹ 34.59$

Question 4(b): Cash Budget for Manufacturing Firm

8 Marks

Following information relates to ABC Company for the year 2016:

(a) Projected Sales: (in ₹ Lakhs)

Month	August	September	October	November	December
Sales	35	40	40	45	46

- Gross Profit Margin will be 20% on Sales.
- 10% of projected Sales will be Cash Sales. Out of Credit Sales of each month, 50% will be collected in the next month and the balance will be collected during the second month following the month of sale.
- Creditors will be paid in the first month following credit purchase. There will be Credit Purchase only.
- Wages and Salaries will be paid on the first day of the next month. The amount will be ₹ 3 Lakhs each month.

- (f) Interim Dividend of ₹ 2 Lakhs will be paid in December 2016.
 (g) Machinery costing ₹ 10 Lakhs will be purchased in September 2016. Repayment by Instalment of ₹ 50,000 p.m, will start from October 2016.
 (h) Administrative Expenses of ₹ 1,00,000 per month will be paid in the month of their incurrence.
 (i) Assume no Minimum Cash Balance is required. Opening cash balance as on 01.10.2016 is estimated at ₹ 10 Lakhs.

Prepare the Monthly Cash Budget for the 3 month period (October 2016 to December 2016).

Solution: Similar to Practical Guide Page 16.20 Q.No.19 [RTP]

1. Computation of Collection from Debtors and Credit Purchases (₹ Lakhs)

Particulars	Aug	Sep	Oct	Nov	Dec
(a) Total Sales	35.00	40.00	40.00	45.00	46.00
(b) Cash Sales at 10% of (a)	3.50	4.00	4.00	4.50	4.60
(c) Credit Sales (a – b)	31.50	36.00	36.00	40.50	41.40
(d) Collection of Debtors: 50% in next month	–	15.75	18.00	18.00	20.25
50% in second month	–	–	15.75	18.00	18.00
Total Collection from Debtors			33.75	36.00	38.25
(e) COGS [GP Ratio= 20% on Sales, So, COGS = 80% of Sales, i.e. 80% of (a)]	28.00	32.00	32.00	36.00	36.80
(f) Wages & Salaries (assumed debited to Trading A/c)	3.00	3.00	3.00	3.00	3.00
(g) Balance being Material Consumption Cost (e – f)	25.00	29.00	29.00	33.00	33.80

Note: Material Consumption Cost = Opening Stock + Purchases (–) Closing Stock.

In the absence of information, Opening Stock = Closing Stock. Hence, Material Consumed = Purchases.

Since all Purchases are on credit basis only, Total Purchases (i.e. **Material Consumed**) = **Credit Purchases**.

Alternatively, Wages and Salaries can be assumed as Other Expense debited to P&L, and hence ignored in the above computations. In such case, COGS = Credit Purchases, by following the above analogy.

2. Cash Budget for the Months of October, November and December (₹ Lakhs)

Particulars	October	November	December
A. Opening Balance	10.00	14.25	21.25
B. Receipts / Inflows: Cash Sales	40 × 10%= 4.00	45 × 10%= 4.50	46 × 10%=4.60
Collection from Debtors (WN 1)	33.75	36.00	38.25
Total Receipts	37.75	40.50	42.85
C. Payments / Outflows			
Payment to Creditors (WN 1)	29.00	29.00	33.00
Wages and Salaries	3.00	3.00	3.00
Interim Dividend	–	–	2.00
Machinery Purchase – Instalment	0.50	0.50	0.50
Administration Expenses	1.00	1.00	1.00
Total Payments	33.50	33.50	39.50
D. Closing Balance / (Overdraft)	14.25	21.25	24.60

Note: In the alternative assumption stated above, Closing Cash Balance will be ₹ 11.25, ₹ 15.25 and ₹ 15.60 Lakhs.

Question 5: Theory Questions – Various Topics

4×4 = 16 Marks

	Question	Reference
5(a)(i)	Write short notes on Sunk Cost.	Refer Handbook Page 1.7, Para 1.1.17, Point 1 [N 00, M 03, M 05, M 12]
5(a)(ii)	Write short notes on Opportunity Cost.	Refer Handbook Page 1.7, Para 1.1.17, Point 3 [RTP, M 03, M 08, M 09, M 12]

	Question	Reference
5(b)	What is meant by "Cost Centre"? What are the different types of Cost Centres?	Refer Handbook Page 1.12, Para 1.3.3 [RTP, N 91, N 92, M 95, M 97, N 02, M 08, M 11]
5(c)	List the emerging issues (any four) affecting the future role of CFO.	Refer Handbook Page 13.3, Para 13.1.8
5(d)	State the advantages of Debt. Securitisation.	Refer Handbook Page 21.10, Para 21.3.15 [RTP, M 03, M 04, N 04, M 06, M 07, M 08, M 11, M 13]

Question 6(a): Material, Labour and FOH Variances Computation**8 Marks**

The following information is available from the cost records of a Company for the month of July 2016:

Materials Purchased: 22,000 pieces	₹ 90,000	Units Produced	1,900 units
Materials Consumed: 21,000 pieces		Standard Rates and Prices are:	
Actual Wages paid for 5,150 hours	₹ 25,750	Direct Material	₹ 4.50 per piece.
Fixed Factory Overheads Incurred	₹ 46,000	Standard Input	10 pieces per unit
Fixed Factory Overheads Budgeted	₹ 42,000	Direct Labour Rate	₹ 6 per hour.
		Standard requirement	2.5 hours per unit
		Overheads	₹ 8 per Labour Hour.

You are required to calculate the following variances:

(a) Material Price Variance	(e) Fixed Overhead Expenditure Variance
(b) Material Usage Variance	(f) Fixed Overhead Efficiency Variance
(c) Labour Rate Variance	(g) Fixed Overhead Capacity Variance
(d) Labour Efficiency Variance	

Solution: Similar to Practical Guide Page 10.19 Q.No.19 and Handbook Page 10.32, Q.No.16 [M 93, N 09]**1. Computation of Material Cost Variances**

Col. (1): SQ × SP	Col. (2): AQ × SP	Col. (3): AQ × AP
(1,900 uts × 10 pcs) × ₹ 4.5 = ₹ 85,500	21,000 pcs × ₹ 4.50 = ₹ 94,500	21,000 pcs × ₹ 4.09 = ₹ 85,890
Usage Variance = ₹ 85,500 – ₹ 94,500 = ₹ 9,000 A + Price Variance = ₹ 94,500 – ₹ 85,890 = ₹ 8,610 F		
Total Material Cost Variance = ₹ 85,500 – ₹ 85,890 = ₹ 390 A		

Note: Actual Price of Materials = $\frac{₹ 90,000}{22,000 \text{ pieces}} = ₹ 4.09 \text{ per piece.}$

Material Purchase Price Variance = $(PQ \times SP) - (PQ \times AP) = [(22,000 \text{ pcs} \times ₹ 4.50) - ₹ 90,000] = ₹ 9,000 \text{ A}$

2. Computation of Labour Cost Variances

Col. (1): SH × SR	Col. (2): AH × SR	Col. (3): AH × AR
(1,900 uts × 2.5 hrs) × ₹ 6 = ₹ 28,500	5,150 hrs × ₹ 6 = ₹ 30,900	5,150 hrs × ₹ 5 = ₹ 25,750 (given)
Efficiency Variance = ₹ 28,500 – ₹ 30,900 = ₹ 2,400 A + Rate Variance = ₹ 30,900 – ₹ 25,750 = ₹ 5,150 F		
Total Labour Cost Variance = ₹ 28,500 – ₹ 25,750 = ₹ 2,750 F		

Note: Actual Wage Rate of Labour = $\frac{₹ 25,750}{5,150 \text{ hours}} = ₹ 5 \text{ per hour.}$

3. Computation of FOH Cost Variances

Note: Since number of days information is not given, PFOH is not relevant in the FOH Variance computation.

FOH Standard Rate per unit = ₹ 8 per hour (given) × 2.5 hours per unit = ₹ 20 per unit.

Col. (1): AO × SR	Col. (2): AH × SR	Col. (3): BFOH	Col. (4): AFOH
1,900 units × ₹ 20 pu = ₹ 38,000	5,150 hrs × ₹ 8 = ₹ 41,200	(Given) ₹ 42,000	(Given) ₹ 46,000
$\text{FOH Efficiency Variance} + \text{FOH Capacity Variance} + \text{FOH Expenditure Variance}$ $= ₹ 38,000 - ₹ 41,200 = ₹ 3,200 \text{ A} \quad = ₹ 41,200 - ₹ 42,000 = ₹ 800 \text{ A} \quad = ₹ 42,000 - ₹ 46,000 = ₹ 4,000 \text{ A}$			
$\text{FOH Volume Variance} + \text{FOH Expenditure Variance b/fd as above}$ $= ₹ 38,000 - ₹ 42,000 = ₹ 4,000 \text{ A} \quad = ₹ 4,000 \text{ A}$			
<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;"> Total FOH Cost Variance = ₹ 38,000 - ₹ 46,000 = ₹ 8,000 A </div>			

Question 6(b): Computation of WACC – Book Value & Market Value Proportions

8 Marks

The following is the Capital Structure of RBT Limited as on 31st March 2016:

Source of Capital	Book Value	Market Value
Equity Shares at ₹ 10 each	₹ 50,00,000	₹ 1,05,00,000
Retained Earnings	₹ 13,00,000	Nil
11% Preference Shares of ₹ 100 each	₹ 7,00,000	₹ 9,00,000
14% Debentures of ₹ 100 each	₹ 30,00,000	₹ 36,00,000

Market Price of Equity Shares is ₹ 40 per Share and it is expected that a Dividend of ₹ 4 per Share would be declared. The Dividend per Share is expected to grow at the rate of 8% every year. Income Tax Rate applicable to the Company is 40% and Shareholder's Personal Income Tax Rate is 20%.

You are required to calculate:

1. Cost of Capital for each source of Capital.
2. Weighted Average Cost of Capital on the basis of Book Value Weights.
3. Weighted Average Cost of Capital of on the basis of Market Value Weights.

Solution:

Similar to Handbook Page 18.24 Q.No.22 [N 08]

1. Computation of Individual Cost of Capital (Book Value based Computation)

Component & Formula	Computation	Cost
(a) $K_d = \frac{\text{Interest} \times (100\% - \text{Tax Rate})}{\text{Face Value of Debt}}$	$\frac{(\text{₹ } 30,00,000 \times 14\%) \times (100\% - 40\%)}{\text{₹ } 30,00,000}$	8.40%
(b) $K_p = \frac{\text{Pr eference Dividend}}{\text{Face Value of Pr ef.Capital}}$	$\frac{\text{₹ } 7,00,000 \times 11\%}{\text{₹ } 7,00,000}$	11.00%
(c) $K_e = \frac{DPS_1}{MPS_0} + g$ [Note]	$\frac{\text{₹ } 4}{\text{₹ } 40} + 8\% = 10\% + 8\%$	18.00%

Note: Since "expected Dividend is ₹ 4" as given in Question, it is taken as DPS_1 .

2. Computation of Individual Cost of Capital (Market Value based Computation)

Component & Formula	Computation	Cost
(a) $K_d = \frac{\text{Interest} \times (100\% - \text{Tax Rate})}{\text{Market Value of Debt}}$	$\frac{(\text{₹ } 30,00,000 \times 14\%) \times (100\% - 40\%)}{\text{₹ } 36,00,000}$	7.00%
(b) $K_p = \frac{\text{Pr eference Dividend}}{\text{Market Value of Pr ef.Capital}}$	$\frac{\text{₹ } 7,00,000 \times 11\%}{\text{₹ } 9,00,000}$	8.56%
(c) $K_e = \frac{DPS_1}{MPS_0} + g$	$\frac{\text{₹ } 4}{\text{₹ } 40} + 8\% = 10.80\% + 8\%$	18.00%

3. Computation of WACC based on Book Value Proportions

Component	Amount	Proportion	Individual Cost (WN 1)	WACC
Debentures	₹ 30 Lakhs	30%	8.40%	2.52%
Preference Shares	₹ 7 Lakhs	7%	11.00%	0.77%
Equity	₹ 50 Lakhs	50%	18.00%	9.00%
Retained Earnings	₹ 13 Lakhs	13%	18.00%	2.34%
Total	₹ 100 Lakhs	100%		14.63%

4. Computation of WACC based on Market Value Proportions

Component	Amount	Proportion	Individual Cost (WN 2)	WACC
Equity	₹ 105 Lakhs	70%	18.00%	12.60%
Preference Shares	₹ 9 Lakhs	6%	8.56%	0.51%
Debentures	₹ 36 Lakhs	24%	7.0%	1.68%
Total	₹ 150 Lakhs	100%		14.79%

Note: In all the computations above, the Shareholders' Personal Income Tax Rate of 20% has not been considered, since it is assumed that Dividends are not taxable in his hands. However, if Dividend is considered taxable, the Cost of Equity shall be re-computed for after-tax effect, as under –

$$K_e = \frac{DPS_1}{MPS_0} + g = \frac{₹ 4 \times (100\% - 20\%)}{₹ 40} + 8\% = 8\% + 8\% = \mathbf{16.00\%}$$

In such case, the WACC under Book Value and Market Value Weights will be recomputed accordingly.

Question 7: Theory Questions – Various Topics – Answer any four of the following

4 × 4 = 16 Marks

Question	Reference	
7(a) What is meant by Job Costing? Give examples of (any 4) industries where it is used.	Refer Handbook Page 6.1, Para 6A.1.1	
7(b) Give the method of costing and the unit of cost against the under noted Industries: (i) Road Transport (ii) Steel (iii) Bicycles (iv) Bridge Construction	Refer Handbook Page 1.16, Para 1.4.2, Items 23, 27, 3, 6	
	Costing Method	Unit of Cost
	Operating Costing	Per Tonne–Km or Passenger–Km
	Process Costing	Per Tonne
	Multiple Costing	Per Unit or Per Batch
	Contract Costing	Per Contract
7(c) Explain briefly the functions of Treasury Department.	Refer Handbook Page 16.7, Para 16.2.2 [RTP, N 02, M 08, M 09]	
7(d) Explain the following (i) Bridge Finance (ii) Conversion Cost	See Handbook Page 21.8, Para 21.3.12 [M 03, M 06, N 08, N 11] Refer Handbook Page 1.9, Para 1.1.20, Point 8	
7(e) Explain the relevance of Time Value of Money.	Refer Handbook Page 19.1, Para 19.1.2 [RTP, M 05, M 08, N 11]	

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