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PAPER – 3 : COST ACCOUNTING AND FINANCIAL MANAGEMENT

Question No. 1 is compulsory.

Attempt any **five** questions from the remaining six questions.

“Working Notes should form part of the answer”.

Question 1

Answer the following:

- (a) Following are the details of the product Phomex for the month of April 2013:

Standard quantity of material required per unit	5 kg
Actual output	1000 units
Actual cost of materials used	₹ 7,14,000
Material price variance	₹ 51,000 (Fav)
Actual price per kg of material is found to be less than standard price per kg of material by ₹ 10.	

You are required to calculate:

- (i) Actual quantity and Actual price of materials used.
 - (ii) Material Usage Variance
 - (iii) Material Cost Variance
- (b) MFN Limited started its operation in 2011 with the total production capacity of 2,00,000 units. The following data for two years is made available to you:

	2011	2012
Sales units	80,000	1,20,000
Total cost (₹)	34,40,000	45,60,000

There has been no change in the cost structure and selling price and it is expected to continue in 2013 as well. Selling price is ₹ 40 per unit.

You are required to calculate:

- (i) Break-Even Point (in units)
 - (ii) Profit at 75% of the total capacity in 2013
- (c) A company issued 40,000, 12% Redeemable Preference Share of ₹ 100 each at a premium of ₹ 5 each, redeemable after 10 years at a premium of ₹ 10 each. The floatation cost of each share is ₹ 2.

You are required to calculate cost of preference share capital ignoring dividend tax.

- (d) The following information relates to Beta Ltd. for the year ended 31st March 2013:

<i>Net Working Capital</i>	<i>₹ 12,00,000</i>
<i>Fixed Assets to Proprietor's Fund Ratio</i>	<i>0.75</i>
<i>Working Capital Turnover Ratio</i>	<i>5 Times</i>
<i>Return on Equity (ROE)</i>	<i>15%</i>

There is no debt capital.

You are required to calculate:

(i) Proprietor's Fund

(ii) Fixed Assets

(iii) Net Profit Ratio.

(4 x 5 = 20 Marks)

Answer

1. (a) (i) **Actual Quantity and Actual Price of material used**

Material Price Variance = Actual Quantity (Std. Price – Actual Price) = ₹51,000

Or, AQ (SP – AP) = ₹ 51,000

Or, 10 AQ = ₹ 51,000

Or, AQ = 5,100 kgs

Actual cost of material used is given i.e. AQ x AP = ₹ 7,14,000

or, 5,100 AP = ₹ 7,14,000

AP = ₹ 140

∴ Actual price is less by ₹ 10

So, Standard Price = ₹ 140 + ₹ 10 = ₹ 150 per kg

Actual Quantity = 5,100 kgs

Actual Price = ₹ 140/kg

(ii) **Material Usage Variance**

Std. Price (Std. Quantity – Actual Quantity)

Or, SP (SQ – AQ)

= ₹ 150 (1,000 units x 5 kg – 5,100 kg)

= ₹ 15,000 (A)

(iii) **Material Cost Variance** = Std. Cost – Actual Cost

= (SP x SQ) – (AP x AQ)

= ₹ 150 x 5,000 – ₹ 140 x 5,100

$$= ₹ 7,50,000 - ₹ 7,14,000$$

$$= ₹ 36,000 (F)$$

OR

Material Price Variance + Material Usage Variance

$$₹ 51,000 (F) + ₹ 15,000 (A)$$

$$= ₹ 36,000 (F)$$

(b)

	2011	2012	Difference	
Sales Units	80,000	1,20,000	40,000	
Sale Value @ ₹ 40	32,00,000	48,00,000	16,00,000	
Total Cost ₹	34,40,000	45,60,000	11,20,000	
Variable Cost per unit (change in total cost/change in sales volume)				$11,20,000/40,000 = ₹ 28$
Total Fixed Cost (₹)				$45,60,000 - 1,20,000 \times 28 = ₹ 12,00,000$ Or $34,40,000 - 80,000 \times 28 = ₹ 12,00,000$
Break-even point in units	Fixed Cost/Contribution per unit = ₹ 12,00,000/ ₹ (40-28) = 12,00,000/12 = 1,00,000 units			
Capacity at 75%	1,50,000 units (2,00,000 x 75%)			
Contribution per unit	₹ 12			
Contribution (₹)	$1,50,000 \times ₹ 12 = ₹ 18,00,000$			
Fixed Cost	₹ 12,00,000			
Profit	Contribution – Fixed Cost = ₹ 18,00,000 – 12,00,000 = ₹ 6,00,000			

(c) Calculation of Cost of Preference Shares (K_p)

$$\text{Preference Dividend (PD)} = 0.12 \times 40,000 \times 100$$

$$= 4,80,000$$

$$\text{Floatation Cost} = 40,000 \times 2 = ₹ 80,000$$

$$\text{Net Proceeds (NP)} = 42,00,000 - 80,000 = 41,20,000$$

$$\text{Redemption Value (RV)} = 40,000 \times 110 = 44,00,000$$

$$\text{Cost of Redeemable Preference Shares} = \frac{\text{PD} + (\text{RV} - \text{NP}) / N}{\frac{\text{RV} + \text{NP}}{2}}$$

$$K_p = \frac{4,80,000 + (44,00,000 - 41,20,000)/10}{\frac{44,00,000 + 41,20,000}{2}}$$

$$= \frac{4,80,000 + (2,80,000)/10}{85,20,000/2}$$

$$= \frac{4,80,000 + 28,000}{42,60,000} = \frac{5,08,000}{42,60,000}$$

$$= 0.1192$$

$$K_p = 11.92\%$$

(Note: K_p may be computed alternatively by taking the RV and NP for one unit of preference shares. Final figure would remain unchanged).

(d) (i) Calculation of Proprietor's Fund

Since Ratio of Fixed Assets to Proprietor's Fund = 0.75

Therefore, Fixed Assets = 0.75 Proprietor's Fund

Net Working Capital = 0.25 Proprietor's Fund

12,00,000 = 0.25 Proprietor's Fund

$$\begin{aligned} \text{Therefore, Proprietors Fund} &= \frac{12,00,000}{0.25} \\ &= 48,00,000 \end{aligned}$$

(ii) Calculation of Fixed Assets

Fixed Assets = 0.75 Proprietor's Fund

$$= 0.75 \times 48,00,000$$

$$= 36,00,000$$

(iii) Calculation of Net Profit Ratio

Net Working Capital = 0.25 x 48,00,000

$$= 12,00,000$$

$$\text{Working Capital Turnover Ratio} = \frac{\text{Sales}}{\text{Working Capital}}$$

$$\therefore \text{Sales} = 60,00,000$$

$$\text{ROE} = \frac{\text{PAT}}{\text{Equity}}$$

$$0.15 = \frac{\text{PAT}}{48,00,000}$$

$$\text{PAT} = 7,20,000$$

$$\begin{aligned} \text{Net Profit Ratio} &= \frac{\text{Net Profit}}{\text{Sales}} \times 100 \\ &= \frac{7,20,000}{60,00,000} \times 100 \end{aligned}$$

$$\text{Net Profit Ratio} = 12\%$$

[Note: Fixed Assets may be computed alternatively by (Net Working Capital × Fixed Assets to Proprietor's Fund Ratio) and Proprietor's Fund by (Fixed Assets + Net Working Capital)].

Question 2

- (a) The summarized Balances Sheets of MPS Limited as on 31-3-2012 and 31-3-2013 are as under:

Liabilities	31-3-2012	31-3-2013	Assets	31-3-2012	31-3-2013
	₹			₹	₹
Equity share capital	40.00	50.00	Land & Building	27.00	25.00
Securities Premium Account	-	1.00	Plant & Machinery	25.00	34.00
General Reserve	8.00	11.00	Investments (Long Term)	3.00	8.00
Profit & Loss Account	10.30	12.70	Stock	7.50	9.80
10% Debentures	5.00	3.00	Debtors	9.25	11.15
Sundry Creditors	4.90	6.20	Bills Receivable	1.77	1.65
Provision for Tax	5.00	7.00	Cash & Bank	4.50	7.70

Proposed Dividend	4.80	6.00	Balance Preliminary Expenses	0.80	0.62
Corporate Dividend Tax	0.82	1.02			
	78.82	97.92		78.82	97.92

Additional Information:

- (i) On 1.4.2012, the company redeemed debentures of ₹2,00,000 at par.
- (ii) During 2012-13 the company has issued equity shares for cash at a premium of 10%.
- (iii) Provision for tax made during the year 2012-13 for ₹6,80,000.
- (iv) Dividend received on investment ₹50,000 in July 2012.
- (v) A machine costing ₹8,00,000 (WDV ₹1,20,000) was sold for ₹50,000 during the year 2012-13.
- (vi) Depreciation for 2012-13 charged on plant & machinery ₹3,30,000 and ₹2,00,000 on land and building.
- (vii) Proposed Dividend and Corporate Dividend Tax of 2011-12 paid during the year 2012-13.

Prepare a Cash Flow Statement as per Accounting Standard (AS)-3. (10 Marks)

- (b) A skilled worker is paid a guaranteed wage rate of ₹120 per hour. The standard time allowed for a job is 6 hour. He took 5 hours to complete the job. He is paid wages under Rowan Incentive Plan.
 - (i) Calculate his effective hourly rate of earnings under Rowan Incentive Plan.
 - (ii) If the worker is placed under Halsey Incentive Scheme (50%) and he wants to maintain the same effective hourly rate of earnings, calculate the time in which he should complete the job. (6 Marks)

Answer

(a) Cash Flow Statement

		(₹ in lakhs)	(₹ in lakhs)
(A)	Cash Flow from Operating Activities		
	Profit and Loss A/c (12.70 – 10.30)	2.40	
	Add: General Reserves (11.00 – 8.00)	3.00	
		5.40	

	Add: Provision for tax	6.8	
		12.20	
	Add: Proposed dividend	6.00	
	Corporate dividend tax	1.02	
	Profit before tax	19.22	
	Add: Interest on debentures	0.30	
	Loss on Sale of Machinery	0.70	
	Depreciation on Plant & Machinery	3.30	
	Depreciation on Land & Building	2.00	
	Preliminary Expenses written off	0.18	
		25.70	
	Less: Dividend received on Investment	(0.50)	
	Cash flow before W/C adjustments	25.20	
	Less: Increase in Current Assets		
	Stock	(2.30)	
	Debtors	(1.90)	
		21.00	
	Add: Decrease in Current Assets		
	Bills receivables	0.12	
	Add: Increase in Current Liabilities		
	Sundry Creditors	1.30	
	Cash Generated from Operations	22.42	
	Less: Income tax paid		
	[(5.00+6.80) – 7.00]	(4.80)	
	Cash Flow from Operating Activities		17.62
(B)	Cash Flow from Investing Activities		
	Sale of Plant & Machinery	0.50	
	Purchase of Plant & Machinery	(13.50)	
	Purchase of Investment	(5.00)	
	Dividend Received on Investment	0.50	
	Cash Flow from Investing Activities		(17.50)
(C)	Cash Flow from Financing Activities		

Issue of Share Capital	10.00	
Securities Premium	1.00	
Redemption of Debentures	(2.00)	
Interest on debentures	(0.30)	
Proposed Dividend	(4.80)	
Corporate dividend tax	(0.82)	
Cash flow from Financing Activities		3.08
Net increase in Cash and Cash Equivalent (A+B+C)		3.20
Cash and Cash equivalent at beginning of year		4.50
Cash and Cash Equivalent at end of year		7.70

Working Notes:

Provision for Tax A/c

Particulars	Amount (₹)	Particulars	Amount (₹)
To Cash b/f	4.80	By Bal. b/d	5.00
To Balance c/d	7.00	By P/L	6.80
	11.80		11.80

Land & Building A/c

Particulars	Amount (₹)	Particulars	Amount (₹)
To Bal. b/d	27.00	By Depreciation	2.00
		By Balance c/d	25.00
	27.00		27.00

Plant & Machinery A/c

Particulars	Amount (₹)	Particulars	Amount (₹)
To Balance b/d	25.00	By Bank	0.50
To Bank b/f	13.50	By P/L	0.70
		By Depreciation	3.30
		By Balance c/d	34.00
	38.50		38.50

(b) (i) Effective hourly rate of earnings under Rowan Incentive Plan

Earnings under Rowan Incentive plan =

$$(\text{Actual time taken} \times \text{wage rate}) + \frac{\text{Time Saved}}{\text{Time Allowed}} \times \text{Time taken} \times \text{Wage rate}$$

$$= (5 \text{ hours} \times ₹120) + \left(\frac{1 \text{ hour}}{6 \text{ hours}} \times 5 \text{ hours} \times ₹120 \right)$$

$$= ₹600 + ₹100 = ₹700$$

$$\text{Effective hourly rate} = ₹700/5 \text{ hours} = ₹140/\text{hour}$$

(ii) Let time taken = X

$$\therefore \text{Effective hourly rate} = \frac{\text{Earnings under Halsay Scheme}}{\text{Time Taken}}$$

Or, Effective hourly rate under Rowan Incentive plan =

$$\frac{(\text{Time taken} \times \text{Rate}) + 50\% \text{ Rate} \times (\text{Time allowed} - \text{Time taken})}{\text{Time Taken}}$$

$$\text{Or, } ₹140 = \frac{(X \times ₹120) + 50\% ₹120 \times (6 - X)}{X}$$

$$\text{Or, } 140X = 120X + 360 - 60X$$

$$\text{Or, } 80X = 360$$

$$\text{Or, } X = \frac{360}{80} = 4.5 \text{ hours}$$

Therefore, to earn effective hourly rate of ₹140 under Halsey Incentive Scheme worker has to complete the work in 4.5 hours

Question 3

(a) ABX Company Ltd. provides the following information relating to Process-B:

- | | | |
|--|---|-----------------------------|
| (i) Opening Work-in-progress | - | NIL |
| (ii) Units Introduced | - | 45,000 units @ ₹10 per unit |
| (iii) Expenses debited to the process: | | |
| Direct material | - | ₹65,500 |
| Labour | - | ₹90,800 |
| Overhead | - | ₹1,80,700 |
| (iv) Normal loss in the process | - | 2% of Input |

(v) Work-in progress - 1800 units

Degree of completion

Materials - 100%

Labour - 50%

Overhead - 40%

(vi) Finished output - 42,000 units

(vii) Degree of completion of abnormal loss:

Materials - 100%

Labour - 80%

Overhead - 60%

(viii) Units scrapped as normal loss were sold at ₹5 per unit.

(ix) All the units of abnormal loss were sold at ₹2 per unit.

You are required to prepare:

(a) Statement of equivalent production.

(b) Statement showing the cost of finished goods, abnormal loss and closing balance of work-in-progress.

(c) Process-B account and abnormal loss account. (10 Marks)

(b) The following information related to XL Company Ltd. for the year ended 31st March, 2013 are available to you:

Equity share capital of ₹10 each	₹25 lakh
11% Bonds of ₹1000 each	₹18.5 lakh
Sales	₹42 lakh
Fixed cost (Excluding Interest)	₹3.48 lakh
Financial leverage	1.39
Profit-Volume Ratio	25.55%
Income Tax Rate Applicable	35%

You are required to calculate:

(i) Operating Leverage;

(ii) Combined Leverage; and

(iii) Earning per Share.

(6 Marks)

Answer

(a) Statement of Equivalent Production

Input Details	Units	Output Particulars	Units	Equivalent Production					
				Material		Labour		Overhead	
				%	Units	%	Units	%	Units
Unit Introduced	45,000	Finished output	42,000	100	42,000	100	42,000	100	42,000
		Normal loss (2% of 45,000)	900	-	-	-	-	-	-
		Abnormal loss	300	100	300	80	240	60	180
		Closing W-I-P	1,800	100	1,800	50	900	40	720
	45,000		45,000		44,100		43,140		42,900

(b) Statement of Cost

Particulars	Units	Rate (₹)	Amount (₹)	Amount (₹)
(i) Finished goods	42,000	17.9042		7,51,976.40
(ii) Abnormal Loss				
Material	300	11.5873	3,476.19	
Labour	240	2.1048	505.15	
Overhead	180	4.2121	758.18	4,739.52
(iii) Closing W-I-P:				
Material	1,800	11.5873	20,857.14	
Labour	900	2.1048	1,894.32	
Overhead	720	4.2121	<u>3,032.71</u>	25,784.17

Cost per Unit

Particulars	Amount (₹)	Units	Per Unit (₹)
(i) Direct Material :			
Unit Introduced	4,50,000		
Add: Material	<u>65,500</u>		

	5,15,500		
Less: Value of normal loss (900 units × ₹5)	<u>(4,500)</u>		
	5,11,000	44,100	11.5873
(ii) Labour	90,800	43,140	2.1048
(iii) Overhead	1,80,700	42,900	<u>4.2121</u>
			<u>17.9042</u>

(c) Process – B A/c

Particulars	Units	Amount (₹)	Particulars	Units	Amount (₹)
To Input	45,000	4,50,000	By Normal loss	900	4,500
To Direct Material	-	65,500	By Abnormal loss	300	4,740
To Labour	-	90,800	By Finished goods	42,000	7,51,976
To Overhead		1,80,700	By Closing W-I-P	1,800	25,784
	45,000	7,87,000		45,000	7,87,000

Abnormal Loss A/c

Particulars	Units	Amount (₹)	Particulars	Units	Amount (₹)
To Process-B A/c	300	4,740	By Cost ledger control A/c or Bank A/c	300	600
			By Costing Profit & loss A/c	-	4,140
	300	4,740		300	4,740

$$(b) \text{ Profit – Volume Ratio} = \frac{\text{Contribution}}{\text{Sales}}$$

$$25.55 = \frac{\text{Contribution}}{42,00,000} \times 100$$

$$\text{Contribution} = 10,73,100$$

$$(i) \text{ Operating Leverage} = \frac{\text{Contribution}}{\text{Contribution} - \text{Fixed Cost}}$$

$$= \frac{10,73,100}{10,73,100 - 3,48,000}$$

$$= \frac{10,73,100}{7,25,100}$$

$$= 1.48$$

$$\begin{aligned} \text{(ii) Combined Leverage} &= \text{Operating Leverage} \times \text{Financial Leverage} \\ &= 1.48 \times 1.39 = 2.06 \end{aligned}$$

(iii) Earnings per Share (EPS)

$$\text{Number of Equity Shares} = 2,50,000$$

$$\begin{aligned} \text{Earnings before Tax (EBT)} &= \text{Sales} - \text{Variable Cost} - \text{Fixed Cost} - \text{Interest} \\ &= 42,00,000 - 31,26,900 - 3,48,000 - 2,03,500 \end{aligned}$$

$$\text{EBT} = 5,21,600$$

$$\begin{aligned} \text{Profit after Tax (PAT)} &= \text{EBT} - \text{Tax} \\ &= 5,21,600 - 1,82,560 \\ &= 3,39,040 \end{aligned}$$

$$\text{EPS} = \frac{3,39,040}{2,50,000} = 1.3561$$

$$\text{EPS} = 1.36$$

Question 4

- (a) A company manufactures one main product (M_1) and two by-products B_1 and B_2 . For the month of January 2013, following details are available:

Total Cost upto separation Point ₹ 2,12,400

	M_1	B_1	B_2
Cost after separation	-	₹ 35,000	₹ 24,000
No. of units produced	4,000	1,800	3,000
Selling price per unit	₹ 100	₹ 40	₹ 30
Estimated net profit as percentage to sales value	-	20%	30%
Estimated selling expenses as percentage to sales value	20%	15%	15%

There are no beginning or closing inventories.

Prepare statement showing:

- Allocation of joint cost; and
 - Product-wise and overall profitability of the company for January 2013. (8 Marks)
- (b) The following information is provided by the DPS Limited for the year ending 31st March, 2013.

Raw material storage period	55 days
Work-in-progress conversion period	18 days
Finished Goods storage period	22 days
Debt collection period	45 days
Creditors' payment period	60 days
Annual Operating cost	₹ 21,00,000
(Including depreciation of ₹ 2,10,000)	

[1 year = 360 days]

You are required to calculate:

- Operating Cycle period.
- Number of Operating Cycle in a year.
- Amount of working capital required for the company on a cash cost basis.
- The company is a market leader in its product, there is virtually no competitor in the market. Based on a market research it is planning to discontinue sales on credit and deliver products based on pre-payments. Thereby, it can reduce its working capital requirement substantially.

What would be the reduction in working capital requirement due to such decision?

(8 Marks)

Answer

(a) (i) Statement showing allocation of Joint Cost

Particulars	B ₁	B ₂
No. of units Produced	1,800	3,000
Selling Price Per unit (₹)	40	30
Sales Value (₹)	72,000	90,000
Less: Estimated Profit (B ₁ -20% & B ₂ -30%)	(14,400)	(27,000)
Cost of Sales	57,600	63,000
Less: Estimated Selling Expenses (B ₁ -15% & B ₂ -15%)	(10,800)	(13,500)
Cost of Production	46,800	49,500
Less: Cost after separation	(35,000)	(24,000)
Joint Cost allocated	11,800	25,500

(ii) Statement of Profitability

Particulars	M ₁ (₹)	B ₁ (₹)	B ₂ (₹)
Sales Value (A)	4,00,000 (4,000x ₹100)	72,000	90,000
Less:- Joint Cost	1,75,100 (2,12,400 - 11,800 - 25,500)	11,800	25,500
- Cost after separation	-	35,000	24,000
- Selling Expenses (M ₁ -20%, B ₁ -15% & B ₂ -15%)	80,000	10,800	13,500
(B)	2,55,100	57,600	63,000
Profit (A – B)	1,44,900	14,400	27,000
Overall Profit = 1,44,900 + 14,400 + 27,000 = ₹ 1,86,300			

(b) (i) Calculation of Operating Cycle Period

$$\begin{aligned}
 \text{Operating Cycle Period} &= R + W + F + D - C \\
 &= 55 + 18 + 22 + 45 - 60 \\
 &= 80 \text{ days}
 \end{aligned}$$

(ii) Number of Operating Cycle in a Year

$$\begin{aligned}
 &= \frac{360}{\text{Operating Cycle Period}} \\
 &= \frac{360}{80} = 4.5
 \end{aligned}$$

(iii) Amount of Working Capital Required

$$\begin{aligned}
 &= \frac{\text{Annual Operating Cost}}{\text{Number of Operating Cycle}} \\
 &= \frac{18,90,000}{4.5} = 4,20,000
 \end{aligned}$$

(iv) Reduction in Working Capital

$$\begin{aligned}
 \text{Operating Cycle Period} &= R + W + F - C \\
 &= 55 + 18 + 22 - 60 \\
 &= 35
 \end{aligned}$$

$$\begin{aligned}\text{Amount of Working Capital Required} &= \frac{18,90,000}{360} \times 35 \\ &= 1,83,750\end{aligned}$$

$$\begin{aligned}\text{Reduction in Working Capital} &= 4,20,000 - 1,83,750 \\ &= 2,36,250\end{aligned}$$

Question 5

- (a) *Cost of a product or service is required to be expressed in suitable cost unit. State the cost units for the following industries:*
- (i) *Steel*
 - (ii) *Automobile*
 - (iii) *Transport*
 - (iv) *Power*
- (b) *Distinguish between cost allocation and cost absorption.*
- (c) *What is debt securitization? And also state its advantages.*
- (d) *Distinguish between factoring and bill-discounting.* (4x4=16 Marks)

Answer

(a)

Industry	Cost Unit
(i) Steel	Tonne
(ii) Automobile	Numbers
(iii) Transport	Passenger Kilo-meter/ Tonne Kilo-meter
(iv) Power	Kilo-watt hour (Kwh)

(b) **Distinguish between Cost allocation and Cost absorption:**

Cost allocation is the allotment of whole item of cost to a cost centre or a cost unit. In other words, it is the process of identifying, assigning or allowing cost to a cost centre or a cost unit.

Cost absorption is the process of absorbing all indirect costs or overhead costs allocated or apportioned over particular cost centre or production department by the units produced.

(c) Debt Securitisation and its Advantages

Debt securitisation is a method of recycling of funds and is especially beneficial to financial intermediaries to support lending volumes. Under debt securitisation a group of illiquid assets say a mortgage or any asset that yields stable and regular cash flows like bank loans, consumer finance, and credit card payment are pooled together and sold to intermediary. The intermediary then issues debt securities.

The advantages of debt securitisation to the originator are the following:

- (i) The asset is shifted off the Balance Sheet, thus giving the originator recourse to off balance sheet funding.
- (ii) It converts illiquid assets to liquid portfolio.
- (iii) It facilitates better balance sheet management; assets are transferred off balance sheet facilitating satisfaction of capital adequacy norms.
- (iv) The originator's credit rating enhances.

(Note: Students may answer any two of the above advantages)

(d) Differentiation between Factoring and Bills Discounting

The differences between Factoring and Bills discounting are:

- (i) Factoring is called as "Invoice Factoring" whereas Bills discounting is known as 'Invoice discounting.'
- (ii) In Factoring, the parties are known as the client, factor and debtor whereas in Bills discounting, they are known as drawer, drawee and payee.
- (iii) Factoring is a sort of management of book debts whereas bills discounting is a sort of borrowing from commercial banks.
- (iv) For factoring there is no specific Act, whereas in the case of bills discounting, the Negotiable Instruments Act is applicable.

Question 6

- (a) *Pentax Limited has prepared its expense budget for 20,000 units in its factory for the year 2013 as detailed below:*

	₹ per unit
<i>Direct Materials</i>	50
<i>Direct Labour</i>	20
<i>Variable Overhead</i>	15
<i>Direct Expenses</i>	6
<i>Selling Expenses (20% fixed)</i>	15

Factory Expenses (100% fixed)	7
Administration expenses (100% fixed)	4
Distribution expenses (85% variable)	<u>12</u>
Total ₹	<u>129</u>

Prepare an expense budget for the production of 15,000 units and 18,000 units.

(7 Marks)

- (b) PQR Company Ltd. Is considering to select a machine out of two mutually exclusive machines. The company's cost of capital is 12 per cent and corporate tax rate is 30 per cent. Other information relating to both machines is as follows:

	Machine – I	Machine – II
Cost of Machine	₹ 15,00,000	₹ 20,00,000
Expected Life	5 Yrs.	5 Yrs.
Annual Income (Before Tax and Depreciation)	₹ 6,25,000	₹ 8,75,000

Depreciation is to be charged on straight line basis:

You are required to calculate:

- Discounted Pay Back Period
- Net Present Value
- Profitability Index

The present value factors of ₹ 1 @ 12% are as follows:

Year	01	02	03	04	05
PV factor @ 12%	0.893	0.797	0.712	0.636	0.567

(9 Marks)

Answer

- (a) Expense Budget of M/s Pentax Ltd.

Particulars	20,000 Units (₹)	15,000 Units (₹)	18,000 Units (₹)
Direct Material	10,00,000 (20,000 x 50)	7,50,000 (15,000 x 50)	9,00,000 (18,000 x 50)
Direct Labour	4,00,000 (20,000 x 20)	3,00,000 (15,000 x 20)	3,60,000 (18,000 x 20)
Variable Overhead	3,00,000 (20,000 x 15)	2,25,000 (15,000 x 15)	2,70,000 (18,000 x 15)
Direct Expenses	1,20,000 (20,000 x 6)	90,000 (15,000 x 6)	1,08,000 (18,000 x 6)

Selling Expenses (Variable)*	2,40,000 (20,000 x 12)	1,80,000 (15,000 x 12)	2,16,000 (18,000 x 12)
Selling Expenses (Fixed)*	60,000 (3 x 20,000)	60,000	60,000
Factory Expenses (Fixed)	1,40,000 (7 x 20,000)	1,40,000	1,40,000
Administration Expenses (Fixed)	80,000 (4 x 20,000)	80,000	80,000
Distribution Expenses (Variable)**	2,04,000 (10.20 x 20,000)	1,53,000 (10.20 x 15,000)	1,83,600 (10.20 x 18,000)
Distribution Expenses (Fixed)**	36,000 (1.80 x 20,000)	36,000	36,000
	25,80,000	20,14,000	23,53,600

*Selling Expenses: Fixed cost per unit = ₹15 x 20% = ₹3

Fixed Cost = ₹3 x 20,000 units = ₹60,000

Variable Cost Per unit = ₹15 – ₹3 = ₹12

**Distribution Expenses: Fixed cost per unit = ₹12 x 15% = ₹1.80

Fixed Cost = ₹1.80 x 20,000 units = ₹36,000

Variable cost per unit = ₹12 – ₹1.80 = ₹10.20

(b) Working Notes:

$$\text{Depreciation on Machine – I} = \frac{15,00,000}{5} = ₹ 3,00,000$$

$$\text{Depreciation on Machine – II} = \frac{20,00,000}{5} = ₹ 4,00,000$$

Particulars	Machine-I (₹)	Machine – II (₹)
Annual Income (before Tax and Depreciation)	6,25,000	8,75,000
Less: Depreciation	3,00,000	4,00,000
Annual Income (before Tax)	3,25,000	4,75,000
Less: Tax @ 30%	97,500	1,42,500
Annual Income (after Tax)	2,27,500	3,32,500
Add: Depreciation	3,00,000	4,00,000
Annual Cash Inflows	5,27,500	7,32,500

	<i>Machine – I</i>				<i>Machine - II</i>		
<i>Year</i>	<i>PV of Re 1 @ 12%</i>	<i>Cash flow</i>	<i>PV</i>	<i>Cumulative PV</i>	<i>Cash flow</i>	<i>PV</i>	<i>Cumulative PV</i>
1	0.893	5,27,500	4,71,058	4,71,058	7,32,500	6,54,123	6,54,123
2	0.797	5,27,500	4,20,418	8,91,476	7,32,500	5,83,803	12,37,926
3	0.712	5,27,500	3,75,580	12,67,056	7,32,500	5,21,540	17,59,466
4	0.636	5,27,500	3,35,490	16,02,546	7,32,500	4,65,870	22,25,336
5	0.567	5,27,500	2,99,093	19,01,639	7,32,500	4,15,328	26,40,664

(i) Discounted Payback Period

Machine – I

$$\text{Discounted Payback Period} = 3 + \frac{(15,00,000 - 12,67,056)}{3,35,490}$$

$$= 3 + \frac{2,32,944}{3,35,490}$$

$$= 3 + 0.6943$$

$$= 3.69 \text{ years or 3 years 8.28 months}$$

Machine – II

$$\text{Discounted Payback Period} = 3 + \frac{(20,00,000 - 17,59,466)}{4,65,870}$$

$$= 3 + \frac{2,40,534}{4,65,870}$$

$$= 3 + 0.5163$$

$$= 3.52 \text{ years or 3 years 6.24 months}$$

(ii) Net Present Value (NPV)

Machine – I

$$\text{NPV} = 19,01,639 - 15,00,000 = ₹ 4,01,639$$

Machine – II

$$\text{NPV} = 26,40,664 - 20,00,000 = ₹ 6,40,664$$

(iii) Profitability Index

Machine – I

$$\text{Profitability Index} = \frac{19,01,639}{15,00,000} = 1.268$$

Machine – II

$$\text{Profitability Index} = \frac{26,40,664}{20,00,000} = 1.320$$

Conclusion:

Method	Machine - I	Machine - II	Rank
Discounted Payback Period	3.69 years	3.52 years	II
Net Present Value	₹4,01,639	₹6,40,664	II
Profitability Index	1.268	1.320	II

Question 7

Answer any **four** of the following:

(4x4=16 Marks)

- "Perpetual inventory system comprises Bin Card and Stores Ledger, but the efficacy of the system depends on continuous stock taking." Comment.*
- "Is reconciliation of cost accounts and financial accounts necessary in case of integrated accounting system?"*
- "Operating risk is associated with cost structure, whereas financial risk is associated with capital structure of a business concern." Critically examine this statement.*
- What is venture capital financing? State the factors which are to be considered in financing any risky project.*
- State the advantage of Electronic Cash Management System.*

Answer

- Perpetual Inventory system represents a system of records maintained by the stores department. Records comprise of (i) Bin Cards and (ii) Stores Ledger. Bin Card maintains a quantitative record of receipts, issues and closing balances of each item of stores. Like a bin card, the Stores Ledger is maintained to record all receipt and issue transactions in respect of materials. It is filled up with the help of goods received note and material requisitions. But a perpetual inventory system's efficacy depends on the system of continuous stock taking. Continuous stock taking means the physical checking of the records i.e. Bin cards and store ledger with actual physical stock. Perpetual inventory is essentially necessary for material control. It incidentally helps continuous stock taking.

The main advantages of continuous stock taking are as follows:

- (1) Physical stocks can be counted and book balances adjusted as and when desired without waiting for the entire stock-taking to be done.
 - (2) Quick compilation of Profit and Loss Accounts (for interim period) due to prompt availability of stock figures.
 - (3) Discrepancies are easily located and thus corrective action can be promptly taken to avoid their recurrence.
 - (4) A systematic review of the perpetual inventory reveals the existence of surplus, dormant, obsolete and slow-moving materials, so that remedial measures may be taken in time.
 - (5) Fixation of the various levels and check of actual balances in hand with these levels assist the Storekeeper in maintaining stocks within limits and in initiating purchase requisitions for correct quantity at the proper time.
- (b) In integrated accounting system cost and financial accounts are kept in the same set of books. Such a system will have to afford full information required for Costing as well as for Financial Accounts. In other words, information and data should be recorded in such a way so as to enable the firm to ascertain the cost (together with the necessary analysis) of each product, job, process, operation or any other identifiable activity. It also ensures the ascertainment of marginal cost, variances, abnormal losses and gains. In fact all information that management requires from a system of Costing for doing its work properly is made available. The integrated accounts give full information in such a manner so that the profit and loss account and the balance sheet can be prepared according to the requirements of law and the management maintains full control over the liabilities and assets of its business.

Since, only one set of books are kept for both cost accounting and financial accounting purpose so there is no necessity of reconciliation of cost and financial accounts.

- (c) "Operating risk is associated with cost structure whereas financial risk is associated with capital structure of a business concern".

Operating risk refers to the risk associated with the firm's operations. It is represented by the variability of earnings before interest and tax (EBIT). The variability in turn is influenced by revenues and expenses, which are affected by demand of firm's products, variations in prices and proportion of fixed cost in total cost. If there is no fixed cost, there would be no operating risk. Whereas financial risk refers to the additional risk placed on firm's shareholders as a result of debt and preference shares used in the capital structure of the concern. Companies that issue more debt instruments would have higher financial risk than companies financed mostly by equity.

(d) **Venture Capital Financing and Factors to be considered in financing any Risky Project**

Under venture capital financing, venture capitalist makes investment to purchase debt or equity from inexperienced entrepreneurs who undertake highly risky ventures with potential of success. The factors to be considered in financing any risky project are:

- (i) Quality of the management team is a very important factor to be considered. They are required to show a high level of commitment to the project.
- (ii) The technical ability of the team is also vital. They should be able to develop and produce a new product / service.
- (iii) Technical feasibility of the new product / service should be considered.
- (iv) Since the risk involved in investing in the company is quite high, venture capitalists should ensure that the prospects for future profits compensate for the risk.
- (v) A research must be carried out to ensure that there is a market for the new product.
- (vi) The venture capitalist himself should have the capacity to bear risk or loss, if the project fails.
- (vii) The venture capitalist should try to establish a number of exit routes.
- (viii) In case of companies, venture capitalist can seek for a place on the Board of Directors to have a say on all significant matters affecting the business.

(Note: Students may answer any two of the above factors)

(e) **Advantages of Electronic Cash Management System**

- (i) Significant saving in time.
- (ii) Decrease in interest costs.
- (iii) Less paper work.
- (iv) Greater accounting accuracy.
- (v) More control over time and funds.
- (vi) Supports electronic payments.
- (vii) Faster transfer of funds from one location to another, where required.
- (viii) Speedy conversion of various instruments into cash.
- (ix) Making available funds wherever required, whenever required.
- (x) Reduction in the amount of 'idle float' to the maximum possible extent.

- (xi) Ensures no idle funds are placed at any place in the organization.
 - (xii) It makes inter-bank balancing of funds much easier.
 - (xiii) It is a true form of centralised 'Cash Management'.
 - (xiv) Produces faster electronic reconciliation.
 - (xv) Allows for detection of book-keeping errors.
 - (xvi) Reduces the number of cheques issued.
 - (xvii) Earns interest income or reduce interest expense.
- (Note: Students may answer any four of the above advantages).*