



J.K. SHAH[®]
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SUGGESTED SOLUTION
IPCC NOVEMBER 2016 EXAM
FINANCIAL MANAGEMENT
Test Code - I N J 1 0 4 8
BRANCH - (MUMBAI) (Date : 05.06.2016)

Head Office : Shraddha, 3rd Floor, Near Chinai College, Andheri (E), Mumbai – 69.
Tel : (022) 26836666

Answer-1 :

Statement showing Evaluation of the Proposed Credit Policies

(Amount Rs. in Lakhs)

	Credit policies				
	Present	I	Proposed II	III	IV
Average Collection Period(days)	(20 days)	(30 days)	(40 days)	(50 days)	(60 days)
Sales (Annual)	60.00	65.00	70.00	74.00	75.00
Less: Variable cost(70% of sales)	42.00	45.50	49.00	51.80	52.50
Contribution	18.00	19.50	21.00	22.20	22.50
Less: Fixed Costs	8.00	8.00	8.00	8.00	8.00
Profit	10.00	11.50	13.00	14.20	14.50
Increase in profit compared to present profit: (A)	-	1.50	3.00	4.20	4.50
Investments in debtors (Variable cost+ Fixed cost)	50.00	53.50	57.00	59.80	60.50
Debtors turnover (360 days/Average collection period)	18	12	9	7.2	6
Average investment in debtors (Investment in debtors/ Debtors turnover)	2.78	4.46	6.33	8.3	10.08
Additional investment in debtors compared to present level	-	1.68	3.55	5.52	7.30
Required return on additional investment (25%) : (B)	-	0.42	0.89	1.38	1.83
Incremental profit: (A)–(B)	-	1.08	2.11	2.82	2.67

(8 Marks)

Decision: The Company should adopt the credit policy III (with collection period of 50 days) as it yields a maximum profit to the company.

Another method of solving the above problem is as under:

Statement Showing Evaluation of the proposed Credit Policies

(Rs. in Lakhs)

Particulars	Present	Policy I	Policy II	Policy III	Policy IV
	policy 20 days	30 days	40 days	50 days	60 days
A. Expected profit :	60.00	65.00	70.00	74.00	75.00
(a) Sales					
(b) Total Cost:					
(i) Variable Cost @ 70%	42.00	45.50	49.00	51.80	52.50
(ii) Fixed Costs	8.00	8.00	8.00	8.00	8.00
(c) Expected Profit	10.00	11.50	13.00	14.20	14.50
B. Opportunity Cost of Investment in Receivables	0.69	1.11	1.58	2.08	2.52
C. Net Benefits [A-B]	9.31	10.39	11.42	12.12	11.98

Recommendation: The credit policy III (i.e. 50 days credit) should be adopted since the net benefits under this policy are higher than those under other policies.

Working Note

Calculation of Opportunity Cost of Investments in Receivables:

Opportunity Cost	= Total Cost x $\frac{\text{Collection Period}}{360}$ x $\frac{\text{Rate of Return}}{100}$
Present Policy	= Rs.50 lakhs x $\frac{20}{360}$ x $\frac{25}{100}$ =Rs.0.69 lakh
Proposed Policy I	= Rs.53.50 lakhs x $\frac{30}{360}$ x $\frac{25}{100}$ = Rs.1.11 lakh
Present Policy II	= Rs.57.00 lakhs x $\frac{40}{360}$ x $\frac{25}{100}$ = Rs.1.58 lakh
Present Policy III	= Rs.59.80 lakhs x $\frac{50}{360}$ x $\frac{25}{100}$ = Rs.2.08 lakhs
Present Policy IV	= Rs.60.50 lakhs x $\frac{60}{360}$ x $\frac{25}{100}$ = Rs.2.52 lakh

Answer-2 :

Determination of Optimal Cash Balance according to William J. Baumol Model

The formula for determining optimum cash balance is:

$$C = \sqrt{\frac{2U \times P}{S}}$$

$$C = \sqrt{\frac{2 \times 2,62,500 \times 12 \times 25}{0.75}} = \sqrt{\frac{15,75,00,000}{0.075}} = \sqrt{2,10,00,00,000}$$

Optimum Cash Balance, C, = Rs. 45,826

(2 Marks)

Answer-3 :

Preparation of Monthly Cash Budget

Cash Budget for four months from June, 2014 to September, 2014

Particulars	June (Rs.)	July (Rs.)	August (Rs.)	September (Rs.)
Opening Balance	45,000	45,500	45,500	45,000
Receipts:				
Cash Sales	1,00,000	98,000	1,08,000	1,22,000
Collection from debtors	3,48,000	3,80,000	3,96,000	4,12,000
Dividends	25,000	-	-	-
Total (A)	5,18,000	5,23,500	5,49,500	5,79,000
Payments:				
Creditors for Materials	2,00,000	2,10,000	2,60,000	2,82,000
Wages	1,62,500	1,65,000	1,65,000	1,67,500
Overheads	40,000	38,000	37,500	60,800
Installment for Machine	-	20,000	20,000	20,000
Interest on Debentures	30,000	-	-	-
Advance Tax	-	-	15,000	-
Total (B)	4,32,500	4,33,000	4,97,500	5,30,300
Surplus (A – B)	85,500	90,500	52,000	48,700
Fixed Deposits	40,000	45,000	7,000	3,000
Closing Balance	45,500	45,500	45,000	45,700

(6 Marks)

Working Notes:

(1) Cash Sales and Collection from Debtors:

Month	Total Sales Rs.	Cash Sales Rs.	Credit Sales R.	Collection from Debtors			
				June Rs.	July Rs.	August Rs.	September Rs.
April 2010	4,20,000	84,000	3,36,000	1,68,000	-	-	-
May 2010	4,50,000	90,00	3,60,000	1,80,000	1,80,000	-	-

June 2010	5,00,000	1,00,000	4,00,000	-	2,00,000	2,00,000	-
July 2010	4,90,000	98,000	3,92,000	-	-	1,96,000	1,96,000
August 2010	5,40,000	1,08,000	4,32,000	-	-	-	2,16,000
Sept.2010	6,10,000	1,22,000	4,88,000	-	-	-	-
Total				3,48,000	3,80,000	3,96,000	4,12,000

(2 Marks)

(2) Payment of Wages

June = 80,000 + 82,500 = 1,62,500;

July = 82,500 + 82,500 = 1,65,000;

Aug. = 82,500 + 82,500 = 1,65,000; and

Sept. = 82,500 + 85,000 = 1,67,500.

(Note: It has been assumed that the company wants to keep minimum cash balance of Rs. 45,000.)

Answer-4 :

Fund from Operation

Particulars	(Rs.)
Closing value of reserves & surplus	6,15,000
Less: Opening value of reserves & surplus	<u>(3,57,000)</u>
Profit after depreciation	2,58,000
Add: Depreciation (refer the working note)	<u>37,000</u>
Profit before depreciation	2,95,000
Less: Profit on sale of plant	<u>(20,000)</u>
	2,75,000
Add: Interim dividend	<u>54,000</u>
Fund from Operation	<u>3,29,000</u>

(3 Marks)

Fund flow statement for the year ended 31st March 2016

Particulars	(Rs.)
Sources of Fund	
Fund from Operation	3,29,000
Decrease in working capital (Balancing Figure)	3,67,000
Sale of plant	<u>48,500</u>
	7,44,500

Application of Fund

Long-term Investment (Rs.4,35,000 – Rs.1,98,000)	2,37,000
Purchase of Plant (refer the working note)	1,83,500
Repayment of Debentures (Rs.3,75,000 – Rs.1,05,000)	2,70,000
Payment of interim dividend	<u>54,000</u>
	<u>7,44,500</u>

(4 Marks)

Working Note:

Plant A/c

Particulars	(Rs.)	Particulars	(Rs.)
To Balance b/d	95,000	By Bank A/c (Sale)	48,500
To P&L A/c (Profit on sale)	20,000	By Prov. for Depreciation (Balancing figure)	37,000
To Bank A/c (new purchase)			

(Rs.1,40,000 + Rs.43,500)	1,83,500	By Balance c/d	2,13,000
	2,98,500		2,98,500

(1 Mark)

Answer-5 :

(i) Calculation of Sales

Fixed assets Rs.(1,62,50,000 + 30,00,000) = 1,92,50,000

$$\text{Sales} = \frac{1,92,50,000}{1.4} = 1,37,50,000$$

$$\text{Cost of goods sold} = 1,37,50,000 \times 0.90 = 1,23,75,000$$

$$\text{Material} = 1,37,50,000 \times 0.40 = 55,00,000$$

$$\text{Depreciation} = 1,37,50,000 \times 0.05 = 6,87,500$$

$$\text{Net profit} = 1,37,50,000 \times 0.10 = 13,75,000$$

(1 Mark)

Calculation of Net Fixed Assets

		Rs.
Opening balance		1,62,50,000
Add: Purchases		<u>30,00,000</u>
		1,92,50,000
Less: Accumulated Depreciation	52,00,000	
Additional Depreciation	<u>6,87,500</u>	<u>58,87,500</u>
Closing balance of fixed assets		<u>1,33,62,500</u>

(1 Mark)

Calculation of Closing Stock

$$\text{Average stock} = \frac{\text{Cost of goods sold}}{\text{Stock turnover ratio}}$$

$$= \frac{1,23,75,000}{6} = 20,62,500$$

$$\text{Average stock} = \frac{(\text{Opening stock} + \text{Closing Stock})}{2}$$

$$20,62,500 = \frac{(19,50,000 + \text{Closing Stock})}{2}$$

$$\text{Closing stock} = 41,25,000 - 19,50,000 = 21,75,000$$

$$\text{Calculation of Debtors} = 1,37,50,000 \times 0.10 = 13,75,000$$

$$\text{Calculation of Creditors} = 55,00,000 \times 0.25 = 13,75,000$$

Calculation of Interest and Provision for Taxation

Net profit	13,75,000
Less: Interest (19,50,000 x 10%)	<u>2,55,500</u>
(5,50,000 x 11%)	11,19,500
Less: Taxes	<u>3,35,850</u>
Net profit available for dividend	7,83,650
Less: Preference share dividend	2,60,000
Less: Equity dividend @ 7%	<u>4,20,000</u>
Transfer to reserves and surplus	<u>1,03,650</u>

(1 Mark)

Reserves and Surplus

Opening balance	14,00,000
Add: Current balance	<u>1,03,650</u>
	<u>15,03,650</u>

Projected Cash Flow Statement

(i) Cash flow from Operating Activities			
Profit after taxation			7,83,650
Depreciation added back			<u>6,87,500</u>
			14,71,150
Add: Increase in current liabilities and decrease in current assets			
Provision for taxation			3,35,850
Debtors (26,00,000 – 13,75,000)			12,25,000
Less: Increase in current assets and decrease in current liabilities			
Stock (21,75,000 – 19,50,000)		(2,25,000)	
Creditors (13,75,000 – 32,50,000)		<u>(18,75,000)</u>	<u>(21,00,000)</u>
Net Cash from Operating Activities			<u>9,32,000</u>
			(3 Marks)
(ii) Cash flow from Investing Activities			
Purchase of Fixed Assets			(30,00,000)
			(1 Mark)
(iii) Cash flow from Financing Activities			
Issue of Debenture		5,50,000	
Issue of equity share capital		30,00,000	
Dividend paid		<u>(6,80,000)</u>	<u>28,70,000</u>
Net increase in cash			8,02,000
Opening balance of cash			<u>2,50,000</u>
Closing balance			<u>10,52,000</u>
			(2 Marks)

Projected Balance Sheet as on 31st March, 2008

Liabilities	Rs. ('000)	Assets	Rs. ('000)
Equity share capital	9,000	Fixed Assets (at cost)	19,250
8% Preference share capital	3,250	Less : Depreciation	
Reserves & Surplus	1,503.65	written off	<u>5,887.50</u>
10% & 11% Debentures	2,500	Stock	2,175
Sundry Creditors	1,375	Sundry Debtors	1,375
Provision for Taxation	<u>335.85</u>	Cash	<u>1,052</u>
Total	17,964.50	Total	17,964.50

(3 Marks)

Answer-6 :

Advise to the Management

Option I: Cash Down Payment

Cash down payment= Rs. 5,00,000

Option II: Annual Installment Basis

Annual installment = $6,15,000 \times \frac{1}{6} = \text{Rs. } 1,02,500$

Present Value of 1 to 6 instalments @12%

= $1,02,500 \times 4.111$

= Rs. 4,21,378

(2 Marks)

Advise: The doctor should buy X-Ray machine on installment basis because the present value of cash out flows is lower than cash down payment. This means Option II is better than Option I.

Answer-7 (a) :

Statement of Evaluation of Credit Policies of PTX Limited (based on Total Cost Approach)

	Present Policy	Policy Option I	Policy Option II

Sales Revenue	30,00,000	42,00,000	4,50,0000
Less: Variable Cost @70%	<u>21,00,000</u>	<u>29,40,000</u>	<u>31,50,000</u>
Contribution	9,00,000	12,60,000	13,50,000
Less: Other Relevant Costs			
Bad Debt Losses	(90,000)	(2,10,000)	(2,70,000)
Investment Cost (VC ÷ DTR) × 20%	<u>(1,05,000)</u>	<u>(1,96,000)</u>	<u>(2,62,500)</u>
Profit	7,05,000	8,54,000	8,17,500

(4 Marks)

Recommendation: PTX Limited is advised to adopt Policy Option I.

(Note: In the above solution, investment in accounts receivable is based on total cost of goods sold on credit. Since fixed costs are not given in the problem, therefore, it is assumed that there are no fixed costs and investment in receivables is determined with reference to variable costs only. The above solution may alternatively be worked out on the basis of incremental approach. However, the recommendation would remain the same.)

Answer-7 (b) :

Evaluation of Credit Policies

Credit Policy	Present	A	B	C	D
Average collection period (days)	30	45	60	75	90
A. Sales Revenue	50	56	60	62	63
Less: Variable Costs (VC)	40	44.80	48	49.60	50.40
Contribution	10	11.20	12	12.40	12.60
Less: Fixed Costs (FC)	6	6	6	6	6
Profit	4	5.20	6	6.40	6.60
Increase in profit due to increase in contribution (20% of sales) compared to present profit (A)	-	1.20	2	2.40	2.60
B. Investment in Debtors:					
Total Cost (VC + FC)	46	50.80	54	55.60	56.40
Debtors Turnover Ratio (DT) (360/Average Collection Period)	12	8	6	4.80	4
Average Investment in Debtors (Total Cost/DT)	3.83	6.35	9	11.58	14.10
Additional Investment compared to Present Level	-	2.52	5.17	7.75	10.27
Cost of Additional Investment @ 20% (B)	-	0.50	1.03	1.55	2.05
C. Incremental Profit (A-B)	-	0.70	0.97	0.85	0.55

(6 Marks)

Recommendation: Credit Policy (B) is recommended since it yield maximum profit of 0.97 lakhs.