

**Paper 10- Cost & Management Accounting and  
Financial Management**

# Answer to MTP\_Intermediate\_Syl2016\_June2018\_Set 1

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## Cost and Management Accounting and Financial Management

Full Marks: 100

Time allowed: 3 hours

### Part A (Cost and Management Accounting)

#### Section- I

1. Answer the following questions:

(a) Choose the correct answer from the given four alternatives:

[1 × 6 = 6]

(i) Profit volume ratio establishes the relationship between...

- (A) Contribution and profit
- (B) Fixed cost and contribution
- (C) Profit and sales
- (D) Contribution and sales value

(ii) A desire to achieve a particular goal with pursuit of that goal is called:

- (A) motivation
- (B) goal congruence
- (C) effort
- (D) autonomy

(iii) The scarce factors is also known as

- (A) Key factor
- (B) Abnormal factor
- (C) Linking factor
- (D) None of the above

(iv) A budgeting process which demands each manager to justify his entire budget in detail from beginning is:

- (A) Functional budget
- (B) Master budget
- (C) Zero base budgeting
- (D) None of the above

(v) The sub-variance of material usage variance, known as Material mix variance is measured as

- (A) Total standard cost - Total actual cost
- (B) Standard cost of revised standard mix - Standard cost of actual mix
- (C) (Standard unit price - Actual unit price) \* Actual quantity used
- (D) (Standard quantity - Actual quantity) \* Unit standard price

(vi) Another name for the learning curve is a(n)

- (A) experience curve
- (B) exponential curve
- (C) growth curve
- (D) production curve

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(b) Match the statement in Column I with the most appropriate statement in Column II: [1×4 = 4]

Column I	Column II
(i) Differential Cost	(A) Division of total cost into Fixed and Variable
(ii) Opportunity Cost	(B) Future cost
(iii) Marginal Cost	(C) Cost Cannot be controlled
(iv) Sunk Cost	(D) Cost can be controlled

(c) State whether the following statements are True' or 'False': [1×4=4]

- (i) Standard costs are used for external reporting.
- (ii) A high P/V ratio for a business indicates that a slight decrease in sales volume results in higher profits.
- (iii) Zero based budgeting involves identification of decision units.
- (iv) Learning curve is a cost reduction technique.

Answer:

1. (a) (i) - (D)      (ii)-(A)      (iii)-(A)      (iv)-(C)      (v)-(B)      (vi)- (A)  
(b) (i)-(B)      (ii)-(D)      (iii)-(A)      (iv)-( C)  
(c) (i) False      (ii)False      (iii)True      (iv)False

## Section II

Answer any three Question from Q. No 2, 3, 4 and 5. Each Question carries 12 Marks.

2(a) The following data relates to a manufacturing company:

Plant Capacity = 4,00,000 units per annum. Present Utilization = 40%

Actual for the year 2014 were:

Selling price = ₹ 50 per unit, Material cost = ₹ 20 per unit,

Variable Manufacturing costs = ₹ 15 per unit and Fixed cost = ₹ 27,00,000.

In order to improve capacity utilization, the following proposal is considered:

Reduce Selling price by 10% and spend additionally ₹3,00,000 in Sales Promotion.

How many units should be produced and sold in order to increase profit by ₹ 8,00,000 per year?

2(b) A retail dealer in garments is currently selling 24,000 shirts annually. He supplies the following details for the year ended 31st March 2017.

Selling price per shirt: ₹800

Variable cost per shirt: ₹600

Fixed Cost:

Staff salaries: ₹24,00,000

General Office Cost : ₹ 8,00,000

Advertising Cost: ₹ 8,00,000

Calculate Break Even Point and margin of safety in sales revenue and number of shirts sold.

[8+4 Marks]

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Answer: 2(a)

A.	Let the desired sales (in units) = x.	
B.	Revised SP (₹50 less 10%) = (50 - 5)	= ₹45/unit
C.	Total Sales (A × B)	= 45x
D.	Less: Variable Cost:	
	Material cost @ ₹20 = 20x	
	Variable Mfg. cost @ ₹15 = 15x	35x
E.	Revised Contribution (C) - (D) =	10x
F.	Less: Total Fixed Costs:	
	Present Fixed cost ₹27,00,000	
	Addl. Promotion Exp. ₹ 3,00,000	30,00,000
G.	Profit (E - F) =	10x - 30,00,000

$10x - 30,00,000 = ₹5,00,000$  (Desired Profit) See note ii below.

$10x = ₹35,00,000$  or  $x = 3,50,000$  units.

Working Notes:

- i. Existing Loss = Sales - Variable costs - Fixed Cost.  
 $= (4,00,000 \times 40\% \times 50) - (4,00,000 \times 40\% \times 35) - ₹27,00,000$   
 $= ₹3,00,000$
- ii. Desired Profit = ₹8,00,000 - ₹3,00,000 = ₹5,00,000

**2(b) Break Even Point:** [units] = Fixed Cost / Contribution Per Unit  
 $= ₹40,00,000 / ₹200$   
 $= 20,000$  number of shirts

Note: Contribution per units is selling price - variable cost per unit  
 $= ₹800 - ₹600 = ₹200$

Break Even Point [sales value] = 20000 units - ₹800 = ₹1,60,00,000

Margin of safety = Actual Sales - Break Even Sales  
 $= (24,000 \text{ shirts} \times ₹800) - ₹1,60,00,000$   
 $= ₹1,92,00,000 - ₹1,60,00,000$   
 $= ₹32,00,000$

Margin of safety [units] = 24,000 shirts - 20,000 shirts = 4000 shirts

**3(a) A manufacturing company operates a costing system and showed the following data in respect of the month of November, 2017.**

Budgeted		Actual	
Working days	20	Working days	22
Man hours	4,000	Man hours	4,200
Fixed Overhead Cost (₹)	2,400	Fixed Overhead Cost (₹)	2,500
Output (units)	800	Output (units)	900

You are required to calculate fixed overhead variances from the above data.

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3(b) Gemini chemicals Ltd. Provides the following information from its records:

Material	Quantity (kgs)	Rate/kg (₹)
A	8	6
B	4	4
	12	

During April 2017, 1,000 kgs of GEMCO were produced. The actual consumption of material was as under:

Material	Quantity (kgs)	Rate/kg (₹)
A	760	7
B	500	5
	1,260	

Calculate: i. Material cost variance

ii. Material Price variance

[6+(2+4) Marks]

Answer: 3(a)

WN 1:

Standard fixed overhead per unit = budgeted fixed overhead cost/ budgeted units of output =  $2400/800 = ₹ 3$

Standard fixed overhead per man hour = budgeted fixed overhead cost/ budgeted man hours =  $2400/4000 = ₹ 0.6$

Standard fixed overhead per day = budgeted fixed overhead cost/ budgeted days =  $2400/20 = ₹ 120$

WN 2:

A. Standard Fixed Overhead Cost = Standard fixed overhead per unit × Actual Output (units) =  $₹ 3 \times 900 = ₹ 2700$

B. Fixed Overhead absorbed in actual hours = Standard fixed overhead per hour × Actual hours =  $₹ 0.6 \times 4200 = ₹ 2520$

C. Fixed Overhead Cost absorbed in actual days = Standard fixed overhead per days × Actual days =  $₹ 120 \times 22 = ₹ 2640$

D. Budgeted Fixed Overhead Cost = ₹ 2400

E. Actual Fixed Overhead Cost = ₹ 2500

Computation of Variances:

Fixed Overhead Efficiency Variance = A - B =  $₹ 2700 - ₹ 2520 = ₹ 180$  (Favourable)

Fixed Overhead Capacity Variance = B - C =  $₹ 2520 - ₹ 2640 = ₹ 120$  (Adverse)

Fixed Overhead Calendar Variance = C - D =  $₹ 2640 - ₹ 2400 = ₹ 240$  (Favourable)

Fixed Overhead Volume Variance = A - D =  $₹ 2700 - ₹ 2400 = ₹ 300$  (Favourable)

Fixed Overhead Expenditure Variance = D - E =  $₹ 2400 - ₹ 2500 = ₹ 100$  (Adverse)

Fixed Overhead Efficiency Variance = A - E =  $₹ 2700 - ₹ 2500 = ₹ 200$  (Favourable)

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## 3(b) Basic Calculations:

Calculation of standard input for actual production (1,000 kgs.)

Standard output	Standard input
10 kgs	12 kgs
1,000 kgs	?

Standard input =  $12/10 \times 1,000 = 1,200$  kgs.

1. Standard Quantity for actual production:

Material – A =  $8/12 \times 1,200$  kgs = 800 kgs.

Material – B =  $4/12 \times 1,200$  kgs = 400 kgs.

2. Calculation of Revised Standard Quantity Actual Quantity at Standard mix)

Material – A =  $8/12 \times 1,260$  kgs = 840 kgs.

Material – B =  $4/12 \times 1,260$  kgs = 420 kgs.

Relevant cost details for computation of Material variances:

Particulars	Material – A	Material – B
a. Actual Price (AP)	₹7/kg	₹5/kg
b. Actual Quantity (AQ)	760 kgs	500 kgs
c. Standard Price (SP)	₹6/kg	₹4/kg
d. Standard Quantity (See Note – 2)	800 kgs	400 kgs
e. Revised Standard Quantity (RSQ) (See Note – 3)	840 kgs	420 kgs

Particulars	M 1 (AP × AQ)	M2 (SP × AO)	M3 (SP × RSQ)	M4 (SP × SQ)
Material-A	$7 \times 760 = 5,320$	$6 \times 760 = 4,560$	$6 \times 840 = 5,040$	$6 \times 800 = 4,800$
Material- B	$5 \times 500 = 2,500$	$4 \times 500 = 2,000$	$4 \times 420 = 1,680$	$4 \times 400 = 1,600$

i. Material Cost Variance = M4 – M1  
 Material – A = ₹4,800 – ₹5,320 = ₹520 (A)  
 Material – B = ₹1,600 – ₹2,500 = ₹900 (A)  
₹1,420 (A)

ii. Material Price variance = M2 – M1  
 Material – A = ₹4,560 – ₹5,320 = ₹760 (A)  
 Material – B = ₹2,000 – ₹2,500 = ₹500 (A)  
₹1,260 (A)

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- 4 (a) From the following data, prepare a Production Budget for ABC Co. Ltd., for the six months period ending on 30th June, 2017.

Stocks for the budgeted period:

(in units)

Product	As on 01 January, 2017	As on 30 June, 2017
A	6,000	10,000
B	9,000	8,000
C	12,000	17,500

Other relevant data:

Product	Normal loss in production	Requirement to fulfill sales programme (units)
A	4%	60,000
B	2%	50,000
C	5%	80,000

- (b) XYZ Ltd., which has a system of assessment of Divisional Performance on the basis of residual income, has two Divisions, Alfa and Beta. Alfa has annual capacity to manufacture 15,00,000 units of a special component that it sells to outside customers but has idle capacity. The budgeted residual income of Beta is ₹ 1,20,00,000 and that of Alfa is ₹ 1,00,00,000.

Other relevant details extracted from the budget for the current year are as follows:

Particulars of Alfa:

Sale (Outside customers)	12,00,000 units @ ₹ 180 per unit
Variable cost per unit	₹ 160
Divisional fixed cost	₹ 80,00,000
Capital employed	₹ 7,50,00,000
Cost of Capital	12%

Beta has received a special order for which it requires components similar to the ones made by Alfa. Fully aware of the idle capacity of Alfa, Beta has asked Alfa to quote for manufacture and supply of 3,00,000 units of the components with a slight modification during final processing. Alfa and Beta agreed that this will involve an extra variable cost to Alfa amounting to ₹ 5 per unit.

Calculate the transfer price, which Alfa should quote to Beta to achieve its budgeted residual income. [6+6 Marks]

Answer:

4(a) Production budget for 6 months ending on 30 June 2017

Details	Products (units)		
	A	B	C
Budgeted sales	60000	50000	80000
Add: Closing stock	10000	8000	17500
Total required stock	70000	58000	97500
Less: Opening stock	6000	9000	12000
Net production	64000	49000	85500
Add: Normal loss in production = Net production × Normal Loss % / (100 - Normal Loss %)	(4%) 2666.67	(2%) 1000.00	(5%) 4500.00
Gross production	66666.67	50000.00	90000.00

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4(b) Contribution required for budgeted Residual Income of Alfa:

	₹
Fixed Cost	8000000
Capital Charge on 75000000 ×12%	9000000
Residual Income	10000000
Total Contribution required	27000000

	₹	₹
Contribution required from existing units	$1200000 \times 20$	24000000
Contribution required on 300000 units	$27000000 - 24000000$	3000000
Required contribution per unit	$3000000/300000$	10
Variable cost per unit (existing)		160
Increase in variable cost per unit		5
Transfer Price per unit	$10 + 160 + 5$	175

5. Write short note on *any three* of the following:

[4x3=12 marks]

- (a) Key Factor
- (b) Steps involved in Zero Based Budgeting
- (c) State the general principles of Standard Costing.
- (d) Profit Variance

Answer:

5(a) Key factor is nothing but a limiting factor or deterring factor on sales volume, production, labour, materials and so on. The limiting factor normally differs from one to another

Volume of sales- the limiting factor is that production of required number of articles

Volume of production- the limiting factors are as follows in adequate supply of raw materials, labor, inability to sell the produced articles and so on

The limiting factors are studied in the lights of the contribution. The limiting factor is bearing the inverse relationship with the volume of contribution. To study the worth of the business proposals among the limiting factors, the contribution is considered as a parameter to rank them one after another. Profitability= Contribution/Key Factor

(b) The process of Zero-Base Budgeting involves the following steps:

- (i). Identification of 'Decision units'. Decision unit refers to a tangible activity or group of activities for which a single manager has the responsibility for successful performance
- (ii). Preparation and development of decision packages. Preparation of decision packages is a set of documents which identify and describe activities of the unit in such a way that the management can evaluate and rank them against others competing for resources (limited) and decide whether to approve or disapprove.
- (iii). Ranking of priority included in decision packages for various decision units or of various decision packages for the same decision unit.
- (iv). Approval and Funding. Funding involves the allocation of available resources of the organisation to various decision units keeping in mind the alternative which has been selected and approved through ranking process.

## (c) General Principles of Standard Costing.

1. Predetermination of technical data related to production. i.e., details of materials and labour operations required for each product, the quantum of inevitable losses, efficiencies expected, level of activity, etc.
2. Predetermination of standard costs in full details under each element of cost, viz., labour, material and overhead.
3. Comparison of the actual performance and costs with the standards and working out the variances, i.e., the differences between the actuals and the standards.
4. Analysis of the variances in order to determine the reasons for deviations of actuals from the standards.
5. Presentation of information to the appropriate level of management to enable suitable action (remedial measures or revision of the standards) being taken

## (d) Profit Variance

This represents the difference between budgeted profit and actual profit.

The formula is: Profit Variance = Budgeted Profit – Actual Profit

- (i) Price Variance: It shall be equal to the price variance calculated with reference to turnover. It represents the difference of standard and actual profit on actual volume of sales.

The formula is: Price Variance = Standard Profit – Actual Profit or = Actual Quantity Sold × (Standard Profit per unit - Actual Profit per unit)

- (ii) Volume Variance: The profit at the standard rate on the difference between the standard and the actual volume of sales would be the amount of volume variance.

The formula is: Volume Variance = Budgeted Profit – Standard profit or = Standard Rate of Profit × (Budgeted Quantity - Actual Quantity)

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## Part B (Financial Management)

### Section III

(6 )Answer the following questions:

(a) Choose the correct answer from the given four alternatives: [1x 6=6 marks]

(i) In a Balance Sheet, equity and fixed assets are expressed in terms of their

- (A) Market Value
- (B) Cost
- (C) Book Value
- (D) Replacement Value

(ii) The measure of leverage is :

- (A) PAT/Equity
- (B) Equity/Debt
- (C) Total Assets/Equity
- (D) Total Debt/Equity

(iii) If the RBI intends to reduce the supply of money as part of an anti-inflation policy, it might

- (A) Lower Bank rate
- (B) Increase Cash Reserve Ratio
- (C) Buy Govt. securities in open market
- (D) Decrease Statutory Liquidity Ratio

(iv) Purchase of Machinery by issue of shares should be \_\_\_\_\_ from Cash Flow statement.

- (A) included
- (B) excluded
- (C) included with value 0
- (D) of the above.

(v) In mutually exclusive projects, project which is selected for comparison with others must have

- (A) higher net present value
- (B) lower net present value
- (C) zero net present value
- (D) none of above

(vi) The *dividend-payout ratio* is equal to

- (A) the dividend yield plus the capital gains yield.
- (B) dividends per share divided by earnings per share.
- (C) dividends per share divided by par value per share.
- (D) dividends per share divided by current price per share.

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(b) Match the statement in Column I with appropriate statement in Column II [1x4=4 marks]

Column I	Column II
(i) Common size analysis	(A) Earnings Yield
(ii) Earnings/Stock Price	(B) A technique uses in comparative analysis of financial statement
(iii) DOL	(C) Explains irrelevance of Dividend Policy
(iv) MM Model	(D) Contribution/EBIT

(c) State whether the following statements are True or False: [1x4=4 marks]

- (i) A goal or objective is a necessary first step for effective financial management.
- (ii) An aggressive working capital policy would have low liquidity, higher risk, and higher profitability potential.
- (iii) If a company has no fixed costs, its DOL equals 1.
- (iv) According to the NOI approach to valuation, the total value of the firm is affected by changes in its capital structure.

Answer:

- 6(a) (i) (C) Book Value (ii) (C) Total Assets/Equity  
 (iii) (B) Increase Cash Reserve Ratio (iv) (B) excluded  
 (v) (A) higher net present value  
 (vi) (B) dividends per share divided by earnings per share.

- 6(b) (i)-(B) (ii)-(A) (iii)-(D) (iv)-(C)

- 6(c) (i) True (ii) True (iii) True (iv) False.

## Section IV

Answer any three Question from Q. No 7, 8, 9 and 10. Each Question carries 12 Marks.

7 (a) From the following Balance Sheet and additional information, you are required to calculate:

- (i) Return on Total Resources
- (ii) Return on Capital Employed
- (iii) Return on Shareholders' Fund

Particulars	₹	Particulars	₹
Share Capital(₹10)	800000	Fixed Assets	1000000
Reserves	200000	Current Assets	360000
8% Debentures	200000		
Creditors	160000		
	1360000		1360000

Net operating profit before tax is ₹280000. Assume tax rate at 50%. Dividend declared amounts to ₹120000/-

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7(b) ABC Ltd. Company's Comparative Balance Sheet for 2017 and the Company's Income Statement for the year are as follows:

XYZ Ltd.					
Comparative Balance Sheet March 31, 2017 and 2016					
(Rs. in crores)	2017			2016	
<b>Sources of funds:</b>					
<b>Shareholder's funds</b>					
Share Capital	140		140		
Retained earnings	<u>110</u>	250	<u>92</u>		232
<b>Loan funds</b>					
Bonus payable		<u>135</u>			<u>40</u>
		<u>385</u>			<u>272</u>
<b>Application of funds</b>					
<b>Fixed Assets</b>					
Plant and Equipment	430		309		
Less: Accumulated depreciation	<u>(218)</u>	212	<u>(194)</u>		115
Investments		60			75
<b>Current Assets</b>					
Inventory	205		160		
Accounts receivable	180		270		
Pre-paid expenses	17		20		
Cash	<u>26</u>	428	<u>10</u>	460	
<b>Less : Current liabilities and provisions</b>					
Accounts payable	230		310		
Accrued liabilities	70		60		
Deferred income-tax provision	<u>15</u>	<u>315</u>	<u>113</u>	<u>8</u>	<u>378</u>
		<u>385</u>			<u>272</u>

ABC Ltd.  
Income Statement for the year ended March 31, 2017  
(Rs. in crores)

Sales	Rs.1,000
Less : Cost of goods sold	<u>530</u>
Gross margin	470
Less : Operating expenses	<u>352</u>
Net operating income	118
<b>Non-operating items:</b>	
Loss on sale of equipment	<u>(4)</u>
Income before taxes	114
Less : Income-taxes	<u>48</u>
Net income	66

Additional information:

- (i) Dividends of ₹48 crores were paid in 2017.
- (ii) The loss on sale of equipment of ₹.4 crore reflects a transaction in which equipment with an original cost of ₹12 crore and accumulated depreciation of ₹5 crore were sold for ₹3 crore in cash.

Required:

Using the indirect method, determine the net cash provided by operating activities for 2017 and construct a statement of cash flows. [4+8 marks]

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Answer:

7(a)(i) Return on Total resources=Profit after Tax/Total Assets\*100

$$=₹140000/₹1360000*100 = 10.29\%$$

(ii) Return on Capital Employed=Profit before Tax and Interest/Capital Employed

$$=₹(280000+16000)/₹(12,00,000)*100$$

$$=₹296000/₹1200000*100 = 24.7\%$$

(iii) Return on Shareholders' Fund= Profit after Tax/Shareholders' Fund

$$=₹140000/₹1000000*100 = 14\%$$

7 (b) Statement of net cash flows provided by operating activities by using indirect method for the year ended March 31, 2017

	(₹ in crores)
<i>Operating Activities</i>	
Net Income	66
<i>Adjustment to convert net income to a cash basis</i>	
Depreciation and amortization charges	29
Decrease in accounts receivable	90
Increase in inventory	(45)
Decrease in pre-paid expenses	3
Decrease in accounts payable	(80)
Increase in accrued liabilities	10
Increase in deferred income tax	7
Loss on sale of equipment	4
Net cash provided by operating activities	84
<i>Cash Flow from Investing Activities</i>	
Additions to property, building & equipment	(133)
Decrease in long term investments	15
Proceeds from sale of equipment	3
Net cash used in investing activities	(115)
<i>Cash Flows from Financing Activities</i>	
Increase in bonds payable	95
Cash dividends paid	(48)
Net cash used in financing activities	47
Net increase in cash & cash equivalents	16
Cash & cash equivalents at the beginning of year	10
Cash & cash equivalents at the end of year	26

8 (a) A proforma cost sheet of a Company provides the following data:

	₹
Raw material cost per unit	117
Direct Labour cost per unit	49
Factory overheads cost per unit (includes depreciation of ₹ 18 per unit at budgeted level of activity)	98
Total cost per unit	264
Profit	36
Selling price per unit	300

Following additional information is available:

Average raw material in stock	:	4 weeks
Average work-in-process stock	:	2 weeks
(% completion with respect to		

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Materials	:	80% ;
Labour and Overheads	:	60%)
Finished goods in stock	:	3 weeks
Credit period allowed to debtors	:	6 weeks
Credit period availed from suppliers	:	8 weeks
Time lag in payment of wages	:	1 week
Time lag in payment of overheads	:	2 weeks

The company sells one-fifth of the output against cash and maintains cash balance of ₹ 2,50,000.

Required:

Prepare a statement showing estimate of working capital needed to finance a budgeted activity level of 87,000 units of production. You may assume that production is carried on evenly throughout the year and wages and overheads accrue similarly.

8 (b) Find out Financial Leverage from the following data:

Net Worth	₹50,00,000
Debt/Equity	3:1
Interest Rate	12%
Operating Profit	₹40,00,000

[9+3 marks]

Answer: 8(a)

## Estimation of Working Capital Needs

I.	Investment in Inventory	₹
(i)	Raw material Inventory = $87,000 \times \frac{4}{52} \times ₹117$	7,83,000
(ii)	Work-in-Process Inventory	
	Material = $87,000 \times \frac{2}{52} \times 0.80 \times 117 = 3,13,200$	
	Labour and Overheads Cost (other than depreciation)	
	= $87,000 \times \frac{2}{52} \times 0.60 \times 129 = 2,58,992$	5,72,192
(iii)	Finished Goods Inventory (Cash Cost)	
	= $87,000 \times \frac{3}{52} \times 246$	12,34,731
II	Investment in Debtors (Cash Cost)	
	= $87,000 \times \frac{6}{52} \times 0.8 \times 246$	19,75,569
III	Cash Balance	<u>2,50,000</u>
	Total Investment in Current Assets	<u>48,15,492</u>

## Current Liabilities and Deferred Payment

(i)	Creditors = $87,000 \times \frac{8}{52} \times 117$	15,66,000
(ii)	Wages outstanding = $87,000 \times \frac{1}{52} \times 49$	81,981
(iii)	Overheads outstanding (cash cost)	<u>2,67,692</u>
	= $87,000 \times \frac{2}{52} \times 80$	
	<b>Total Deferred Payments</b>	<u><u>9,15,673</u></u>

**Net Working Capital (Current assets – Non-interest bearing current liabilities)**  
= ₹(48,15,492 – 19,15,673) = ₹28,99,819

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8(b)

Net Worth=	₹50,00,000
Debt /Equity=	3:1
Hence Debt=	₹150,00,000
EBIT	₹40,00,000
Less: Interest @ 12% on ₹15000000	₹1800000
PBT	₹2200000

Financial Leverage=EBIT/PBT=4000000/2200000=1.82

9(a) ABC Ltd is considering raising of funds of ₹100 lacs by one of the alternative method. (I) 14 % Institutional Loan. (II) 13% Non Convertible Debentures. The term loan option would attract no separate incidental cost. The debentures would have to be issued at discount of 2.5% and cost of issue is ₹100000.

Advise ABC Ltd as to which is is better option. Assume tax rate 50%

9(b) Annu Ltd. is examining two mutually exclusive investment proposals. The management uses Net Present Value Method to evaluate new investment proposals. Depreciation is charged using Straight-line Method. Other details relating to these proposals are:

Particulars	Proposal X	Proposal Y
Annual Profit before tax (₹)	13,00,000	24,50,000
Cost of the Project (₹)	90,00,000	180,00,000
Salvage Value (₹)	1,20,000	1,50,000
Working Life	4 years	5 Years
Cost of capital	10%	10%
Corporate Tax Rate	30%	30%

The present value of ₹1 at 10% discount rates at the end of first, second, third, fourth and fifth year are 0.9091; 0.8264; 0.7513; and 0.6209 respectively.

You are required to advise the company on which proposal should be taken up by it.

[4+8 marks]

Answer: 9(a)

Option (I)

Institutional Loan @14%

Tax 50%

Effective interest rate after Tax=7%

Otion II

13% NCD

Annual interest, =₹13

SV=100-2.5-1.00=96.5

$K_d = 13(1-0.5)/96.50 * 100 = 6.74\%$

The effective cost of capital is less or in case of 13% NCD.

# Answer to MTP\_Intermediate\_Syl2016\_June2018\_Set 1

9(b) Calculation of Annual Cash Inflow and Present Values:

Particulars	Proposal X ₹	Proposal Y ₹
Annual Profit Before Tax	13,00,000	24,50,000
Less: tax @ 30%	3,90,000	7,35,000
Annual Profit After Tax	9,10,000	17,15,000
Add: Depreciation (Annual)		
Proposal X : $\frac{90,00,000 - 1,20,000}{4}$	22,20,000	-
Proposal Y: $\frac{1,80,00,000 - 1,50,000}{5}$	-	35,70,000
Annual Cash inflow	31,30,000	52,85,000
P. V. of ₹1 for 1 to 4 year	31,698	-
P. V. of ₹1 for 1 to 5 year	-	37,907
Present value of Annual Cash Inflows	99,21,474	2,00,33,850
Add: Present value of salvage value:		
Proposal X: $1,20,000 \times 0.683$	81,960	-
Proposal Y: $1,50,000 \times 0.6209$	-	93,135
Total Present value	1,00,03,434	2,01,26,985
Less: Initial outflow	90,00,000	1,80,00,000
Net Present Value	10,03,434	21,26,985

Advice: Proposal Y should be accepted as it gives higher net present value.

10) Write short note on any three of the following:

[3x4 marks]

- (a) Issue of Commercial Papers in India
- (b) Danger of too high amount of Working Capital
- (c) CAPM
- (d) NPV

Answer:

**(a) Issue of Commercial Papers in India**

CP was introduced as a money market instruments in India in January, 1990 with a view to enable the companies to borrow for short term. Since the CP represents an unsecured borrowing in the money market, the regulation of CP comes under the purview of the Reserve Bank of India:

- (i) CP can be issued in multiples of ` 5 lakhs.
- (ii) CP can be issued for a minimum duration of 15 days and maximum period of 12 months.
- (iii) For issuing CP the company's net worth should be more than ` 4 crores.
- (iv) CP can neither be redeemed before maturity nor can be extended the beyond the maturity period.
- (v) CP issue requires a credit rating of P2 from CRISIL or A2 from ICRA.

**(b) Danger of too high amount of Working Capital**

- (i) It results in unnecessary accumulation of inventories and gives chance to inventory mishandling, wastage, pilferage, theft, etc., and losses increase.
- (ii) Excess working capital means idle funds which earns no profits for the business.
- (iii) It shows a defective credit policy of the company resulting in higher incidence of bad debts and adversely affects Profitability.
- (iv) It results in overall inefficiency

**(c) CAPM**

The capital asset pricing model explains the behaviour of security prices and provides a mechanism whereby investors could assess the impact of a proposed security investment on their over – all portfolio risk and return. In other words, CAPM formally describes the risk –required return trade off for securities. The assumptions for CAPM approach are:

- i) The efficiency of the security
- ii) Investor preferences.

The capital asset pricing model describes the relationship between the required rate of return, or the cost of equity capital and the non-diversifiable or relevant risk of the firm as reflected in its index of non-diversifiable risk.

Symbolically,  $K_e = R_f + \beta (R_m - R_f)$

Where  $K_e$  = Cost of equity capital

$R_f$  = Risk – free rate of return

$R_m$  = Return on market portfolio

$\beta$  = Beta of Security

**(d) NPV**

The net present value method is a classic method of evaluating the investment proposals. It is one of the methods of discounted cash flow techniques, which recognizes the importance of time value of money.

It is a method of calculating the present value of cash flows (inflows and outflows) of an investment proposal using the cost of capital as an appropriate discounting rate. The net present value will be arrived at by subtracting the present value of cash outflows from the present value of cash inflows. If the NPV is positive or at least equal to zero, the project can be accepted. If it is negative, the proposal can be rejected. Among the various alternatives, the project which gives the highest positive NPV should be selected.

This Method is particularly useful for the selection of mutually exclusive projects. It serves as the best decision criteria for mutually exclusive choice proposals.

However, it does not give solutions when the comparable projects are involved in different amounts of investment.