

**Paper 8- Cost Accounting**

# **Answer to MTP\_Intermediate\_Syl2016\_June2017\_Set 2**

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## **Paper-8: Cost Accounting**

Full Marks: 100

Time allowed:3 hours

### **Section A**

Answer the following questions:

1.(a) Choose the correct answer from the given four alternatives: [10 ×1 = 10]

- (i) Depreciation is a example of-
  - (a) Fixed Cost
  - (b) Variable Cost
  - (c) Semi Variable Cost
  - (d) None
  
- (ii) Continuous stock taking is a part of-
  - (a) ABC analysis
  - (b) Annual stock taking
  - (c) Perpetual Inventory
  - (d) None of these
  
- (iii) Cost of idle time arising due to non availability of raw material is
  - (a) Charged to costing profit and loss A/c
  - (b) Charged to factory overheads
  - (c) Recovered by inflating the wage rate
  - (d) Ignored
  
- (iv) Over time is
  - (a) Actual hours being more than normal time
  - (b) Actual hours being more than standard time
  - (c) Standard hours being more than actual hours
  - (d) Actual hours being less than standard time
  
- (v) The allotment of whole items of cost of centres or cost unit is called
  - (a) Cost allocation
  - (b) Cost apportionment
  - (c) Overhead absorption
  - (d) None of the above
  
- (vi) In Reconciliations Statements Expenses shown only in financial accounts are.
  - (a) Added to financial profit
  - (b) Deducted from financial profit
  - (c) Ignored
  - (d) Added to costing profit

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(vii) Job costing is used in

- (a) Furniture making
- (b) Repair shops
- (c) Printing press
- (d) All of the above

(viii) In a process 8000 units are introduced during a period. 5% of input is normal loss. Closing work in progress 60% complete is 1000 units. 6600 completed units are transferred to next process. Equivalent production for the period is:

- (a) 9000 units
- (b) 7440 units
- (c) 5400 units
- (d) 7200 units

(ix) If sales are ₹ 150,000 and variable cost are ₹ 50,000. Compute P/V ratio.

- (a) 66.66%
- (b) 100%
- (c) 133.33%
- (d) 65.66%

(x) Standard cost of material for a given quantity of output is ₹ 15,000 while the actual cost of material used is ₹ 16,200. The material cost variance is:

- (a) ₹ 1,200 (A)
- (b) ₹ 16,200 (A)
- (c) ₹ 15,000 (F)
- (d) ₹ 31,200 (A)

(b) Match the statement in Column I with the most appropriate statement in Column II:

[1×5 =5]

Column I		Column II	
(i)	Prime Cost	(A)	CAS 19
(ii)	Angle of incidence	(B)	Passenger/ Kilometer
(iii)	Operating Costing	(C)	Direct Cost
(iv)	Joint Cost	(D)	Constant
(v)	Variable cost per unit	(E)	Profitability Rate

(c) State whether the following statements are True' or 'False':

[1×5=5]

- (i) Fixed budget is also known as rigid budget
- (ii) The allocation of joint cost on by-products affects the total profit or loss.
- (iii) Job costing is applied only in small concerns.
- (iv) For decision making, absorption costing is more suitable than marginal costing.
- (v) Overhead and conversion cost are inter-changeable terms.

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(d) Fill in the blanks suitably:

[1x5=5]

- (i) Profit = P/v Ratio = \_\_\_\_
- (ii) Budget is a quantitative and / or a \_\_\_\_ statement.
- (iii) Fixed cost per unit \_\_\_\_ varies with the no. of units.
- (iv) An activity level of 1000 hours cost is ₹10,000 and an activity level for 2000 hours the total cost is ₹16,000. The cost at 3000 hours of level of activity is \_\_\_\_
- (v) \_\_\_\_\_ is must for meaningful inter-firm comparison.

Answer:

1.

(a) **Multiple Choice**

- (i) (a) Fixed Cost
- (ii) (c) Perpetual Inventory
- (iii) (b) Charged to factory overheads
- (iv) (a) Actual hours being more than normal time
- (v) (a) Cost allocation
- (vi) (a) Added to financial profit
- (vii) (d) All of the above
- (viii) (d) 7200 units
- (ix) (a) 66.66%
- (x) (a) ₹1,200 (A)

(b) **Matching:**

Column I		Column II	
(i)	Prime Cost	(C)	Direct Cost
(ii)	Angle of incidence	(E)	Profitability Rate
(iii)	Operating Costing	(B)	Passenger/ Kilometer
(iv)	Joint Cost	(A)	CAS 19
(v)	Variable cost per unit	(D)	Constant

(c) **True & False**

- (i) True
- (ii) False
- (iii) False
- (iv) False
- (v) False

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**(d) Fill in the blanks**

- (i) Margin of safety
- (ii) Financial
- (iii) Inversely
- (iv) ₹22,000
- (v) Uniform Costing

## Section B

Answers any five Questions, working Notes should form part of the answer.

**2.(a) M** Two workmen, Gyani and Jeetu, produce the same product using the same material. Their normal wage rate is also the same. Gyani is paid bonus according to the Halsey System, while Jeetu is paid bonus according to the Rowan System. The time allowed to make the product is 40 hours. Gyani takes 25 hours while Jeetu takes 32 hours to complete the product. The factory overheads are charged @ 125% of direct labour cost. The factory cost for the product for Gyani is ₹8,925 and for Jeetu it is ₹9,456. You are required to:

- (i) find the normal rate of wages;
- (ii) find the cost of materials;
- (iii) Prepare a statement comparing the element wise factory cost of the products as made by the two workmen. [2<sup>1</sup>/<sub>2</sub>+2<sup>1</sup>/<sub>2</sub>+5=10]

**Answer:**

Let 'x' be the material cost and 'y' be the wages rate.  
Earnings of Gyani under Halsey Plan

	₹
Normal wages = 25 × ₹y =	25y
Bonus = 40 – 25 = 15 × ₹y × 50% =	7.5y
Total Earnings =	32.5y

Earnings of Jeetu under Halsey Plan

	₹
Normal wages = 32 × y =	32y
Bonus = $\frac{32 \times 8}{40} \times y =$	6.4y
Total Earnings =	38.4y

Factory Cost = Material + Wages + Factory overheads

In case Gyani:  $8,925 = x + 32.5y + 125\% \text{ of } 32.5y$   
 Or  $x + 32.5y + 40.625y = 8,925$   
 Or  $x + 73.125y = 8,925 \dots\dots\dots(1)$

In case of Jeetu  $x + 38.4y + 125\% \text{ of } 38.4y = 9,456$   
 Or  $x + 38.4y + 48y = 9,456$   
 Or,  $x + 86.4y = 9,456 \dots\dots\dots(2)$

Solving equation (1) & (2)

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$$x + 86.4y = 9,456 \dots\dots\dots(2)$$

$$x + 73.125y = - 8,925 \dots\dots\dots(1)$$

$$13.275y = 531$$

$$\text{Or, } y = 40$$

$$x + 86.4 \times 40 = 9,456$$

$$\text{Or } x = 9,456 - 3,456$$

$$\text{Or } x = 6,000$$

Hence,

(a) Normal rate of wages (y) = ₹40 per hour

(b) Cost of material (x) = ₹6,000

(c) Statement of factory Cost

Particulars	Gyani ₹	Jeetu ₹
Material Cost	6,000	6,000
Wages :		
Gyani (25 × 40) + [(40 – 25) × 40 × 50%]	1,300	-
Jeetu: (32 × 40) + $\left[ \frac{32 \times (40 - 32)}{40} \times 40 \right]$	-	1,536
Factory overhead @ 125% of wages	1,625	1,920
Factory Cost	8,925	9,456

**(b) From the following particulars given below compute Machine hour rate for a machine.**

- a. Cost ₹ 24,000
- b. Scrap value ₹ 4,000
- c. Estimated Working life 40,000 hours
- d. Estimated cost of repairs and maintenance during the whole life ₹2,000
- e. Standard charges of the shop for 4 weekly period ₹ 3,000
- f. Working hours in 4 weekly period 100 hours
- g. No. of machines in the shop each of which is liable for equal charge are 30 machines.
- h. Power used per hour 4 units @ 10p. per unit. [5]

**Answer:**

Computation of Machine Hour Rate

Particulars		Rate per hr.
Standing Charges:		
Standing Charges	[3,000/(100 × 30)]	1.00
Machine Expenses:		
Depreciation	[(24,000-4,000)/40,000]= 0.50	
Repairs	[2,000/40,000] = 0.05	
Power	[4×0.1] = 0.40	0.95
Machine hour rate		1.95

**3.(a) How classification of costs is determined under CAS-1.** [5]

**Answer:**

As per Cost Accounting Standard 1 (CAS-1), the basis for cost classification is as follows:

- (i) Nature of expense
- (ii) Relation to Object – Traceability

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- (iii) Functions / Activities
- (iv) Behaviour
- (v) Management decision making
- (vi) Production Process
- (vii) Time Period

Details can be discussed as below:

- (i) As per nature of expenses Cost can be divided into three parts and these are Material, Labour and Expenses
- (ii) As per Relation to Cost Centre or Cost Unit can be divided as Direct and Indirect
- (iii) As per function: Production, Administration, Research & Development, Selling and Distribution
- (iv) As per Behaviour: Fixed, Semi-variable or Variable
- (v) As per Management Decision Making: Marginal Costing, Differential Cost, Replacement Cost, Relevant Cost, Imputed Cost, Sunk cost, Normal & Abnormal cost, Avoidable Cost & Unavoidable Cost, Uniform Costing, Engineered Cost, Out of pocket cost, Managed cost, Common Cost Controllable and Non Controllable Costs
- (vi) As per nature of production: Batch Costing, Process Costing, Operation Cost, Operating Cost, Contract Costing, Joint Costs, By product cost.
- (vii) As per classification by time: Historical cost, pre-determined cost

**(b) From the following particulars pass the journal entries in an integral accounting system:**

- I. Issued materials ₹3,00,000 of which ₹2,80,000 (standard ₹2,40,000) is direct materials:
- II. Net wages paid ₹70,000 deduction being ₹12,000 (standard ₹75,000)
- III. Gross salaries payable for the period is ₹26,000 (standard ₹25,000). Deductions ₹2,000.
- IV. Sales (Credit) ₹8,00,000.
- V. Discount allowed ₹5,000. [5x2=10]

**Answer:**

### Journal Entries

Particulars	Dr.	Cr.
I. Work-in-progress Led. Control A/c      Dr. Production Overheads Control A/c      Dr. Material Usage Variance A/c              Dr. To Stores Ledger Control A/c (Being the issue of materials)	₹2,40,000 20,000 40,000	3,00,000
II. Wages Control A/c                              Dr. Labour Rate Variance A/c                      Dr. To Cash A/c To Expenses Creditors A/c (Being the provision for salaries payable)	75,000 7,000	70,000 12,000
III. Salaries Control A/c                              Dr. Labour Rate Variance A/c                      Dr. To salaries payable A/c To Expenses Creditors A/c (Being the provision for salaries payable)	25,000 1,000	24,000 2,000
IV. Debtors Ledger Control A/c                      Dr. To Sales A/c (Being the discount allowed to debtors)	8,00,000	8,00,000
V. Discount A/c    Dr.	5,000	

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To Debtors Ledger Control A/c (Being the discount allowed to debtors)		5,000
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- 4.(a) AB Ltd. is committed to supply 24,000 bearings per annum to CD Ltd. On a steady basis. It is estimated that it costs 10 paise as inventory holding cost per bearing per month and that the set-up cost per run of bearing manufacture is ₹ 324.
- (i) What would be the optimum run size for bearing manufacture?
  - (ii) What is the minimum inventory holding cost at optimum run size?
  - (iii) Assuming that the company has a police of manufacturing 6000 bearing per run, how much extra costs would the company be incurring as compared to the optimum run suggested in (a)? [7]

**Answer:**

(a) Optimum production run size (Q) =  $\sqrt{\frac{2AS}{C}}$

Where, A = No. of units to be produced within one year

O = Set-up ncost per production run

C = Carrying cost per unit per annum

$$= \sqrt{\frac{2 \times 24,000 \times 324}{0.10 \times 12}} = 3,600 \text{ units}$$

(b) Minimum inventory holding cost, if run size is 3600 bearings

= Average inventory x Carrying cost per unit

= (3600/2) x (0.10 x 12)

= ₹2160

**(c) Statement showing total cost at production run size of 3600 and 6000 bearings**

A.	Annual requirements	24000	24000
B.	Run Size	3600	6000
C.	No. of runs (A/B)	6.667	4
D.	Set up cost per run	₹324	₹324
E.	Total set up cost (C × D)	₹2160	₹1296
F.	Average inventory (B/2)	1800	3000
G.	Carrying cost per uit p.a.	1.20	1.20
H.	Total carrying cost (F × G)	2160	3600
I.	Total cost (E + H)	4320	4896

Extra cost incurred, if run size is of 6000 = ₹4896 - ₹4320 = ₹576

(b) **VIBRANT LTD.** a manufacturing Company, produces one main Product A and two by-products M and N.

For the month of May, 2016, following details are available:

Total Cost up to separation point ₹2,20,000.

Product/By-Product	A	M	N
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%

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Estimated selling expenses as percentage to sales value	20%	15%	15%
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There is no beginning or closing inventories.

Required:

Prepare statement showing:

(i) Allocation of joint cost; and

(ii) Product wise and overall profitability of the company for May, 2016.

[4+4=8]

Answer:

### VIBRANT LTD.

#### Apportionment of Joint costs at the point of separation:

Total cost upto point of separation				₹2,20,000
By product			M      N	
Less: Cost of by-products by working backward				
Sales realization	M                      N		72000    90000	
	₹                              ₹			
Less: Net Profit [ 20% and 30% of sales]	14,400              27,000			
Less: Selling expenses (15% of sales)	10,800      13,500	60,200    64,500		
Less: Cost after separation	35,000      24,000			
Joint expenses		11,800    25,500		37,300
Joint cost of Product-A				1,82,700

#### Profit & Loss Statement for May 2016

Particular	A	M	N	Total
No. of Units produced:	4,000	1,800	3,000	
	₹	₹	₹	
Sales (A)	4,00,000	72,000	90,000	5,62,000
Cost of Sales:				
Pre-separation cost	1,82,700	11,800	25,500	2,20,000
Post-separation cost	-	35,000	24,000	59,000
Cost of production	1,82,700	46,800	49,500	2,79,000
Selling expenses	80,000	10,800	13,500	1,04,300
Cost of Sales(B)	2,62,700	57,600	63,000	3,83,300
Profit (A- B)	1,37,300	14,400	27,000	1,78,700
Profit as a % Sales	34.32%	20%	30%	31.80%

5.(a) Janata Transport Co. has been given a route 20 km. long for running buses. The company has a fleet of 10 buses each costing ₹ 50,000 and having a life of 5 years without any scrap value.

From the following estimated expenditure and other details calculate the bus fare to be charged from each passenger.

- (i) Insurance charges 3 % p.a.
- (ii) Annual tax for each bus ₹ 1,000
- (iii) Total garage charges ₹1,000
- (iv) Drivers' salary for each bus ₹150 p.m

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- (v) conductor's salary for each bus ₹100 p.m
- (vi) Annual repairs to each bus ₹1,000
- (vii) Commission to be shared by the driver and conductor equally: 10% of the takings
- (viii) Cost of stationary ₹500 p.m.
- (ix) Manager's salary ₹2,000 p.m.
- (x) Accountant's salary ₹1,500 p.m.
- (xi) Petrol and oil ₹25 per 100 km

Each bus will make 3 round trips carrying on an average 40 passengers on each trip. The bus will run on an average for 25 days in a month. Assuming 15% profit on takings, calculate, the bus fare to be charged from each passenger. [8]

**Answer:**

Particulars	Amount (₹)
Insurance (50,000 × 3% × 10/12)	1,250
Tax (1,000 × 10/12)	833.33
Garage charges	1,000
Driver salary (150 × 10)	1,500
Conductor salary (100 × 10)	1,000
Repairs (1,000 × 10/12)	833.33
Cost of stationary	500
Managers salary	2,000
Accountant salary	1,500
Depreciation (50,000 × 10/5 × 1/12)	833.33
Petrol * (30,000 /100) × 25	7,500
Commission of conductor & driver 35,000 × (10/100)	3,500
	27,750
(+) profit @ 15% on takings (35,000 × 15/100)	5,250
	35,000

$$*10 \times 20 \times 3 \times 2 \times 25 = 30,000$$

Let 'X' be the takings

$$X = 26,250 + (10/100X) + (15/100X)$$

$$100X = 26,25,000 + 25X$$

$$= X = 35,000$$

$$\begin{aligned} \text{Fare per passenger Km} &= 35,000 / (30,000 \times 40) \\ &= 0.0292 = ₹0.03 \end{aligned}$$

**(b) The following was the expenditure on a contract for ₹12,00,000 commenced in January 2016:**

	₹
<b>Materials</b>	<b>2,40,000</b>
<b>Wages</b>	<b>3,28,000</b>
<b>Plant</b>	<b>40,000</b>
<b>Overheads</b>	<b>17,200</b>

Cash received on account of the contract up to 31<sup>st</sup> December was ₹4,80,000 being 80% of the work certified.

The value of materials in hand was ₹20,000. The plant had undergone 20% depreciation. Prepare Contract Account. [7]

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Answer:

### Contract Account

Particulars	₹	Particulars	₹
To Materials	2,40,000	By Work certified	6,00,000
To Wages	3,28,000	By Materials in hand	20,000
To Depreciation on plant (20% of 40,000)	8,000		
To Overheads	17,200		
To Notional Profit	26,800		
	<u>6,52,000</u>		<u>6,52,000</u>
To Profit & Loss (W.N.1)	14,293	By Notional profit	26,800
To Work-in-progress A/c	12,507		
	<u>26,800</u>		<u>26,800</u>

\*80% = 4,80,000; Thus, 100% = 4,80,000 / 80% = ₹6,00,000

#### Working note - 1

Assuming that work completed is greater than 50% and less than 90%.

Therefore, Amount of profit transferred =  $\frac{2}{3} \times \text{Notional profit} \times \text{Cash received} / \text{work certified}$

=  $\frac{2}{3} \times 26,800 \times 4,80,000 / 6,00,000 = ₹14,293$

6. (a) The following particulars are extracted from the records of a company:

		PER UNIT	
		PRODUCT A	PRODUCT B
<b>Sales</b>	(₹)	100	120
<b>Consumption of material</b>		2 Kg	3 Kg
<b>Material cost</b>	(₹)	10	15
<b>Direct wages cost</b>	(₹)	15	10
<b>Direct expenses</b>	(₹)	5	6
<b>Machine hours used</b>		3 Hrs	2 Hrs
<b>Overhead expenses:</b>			
<b>Fixed</b>	(₹)	5	10
<b>Variable</b>	(₹)	15	20

Direct wages per hour is ₹ 5

- (i) Comment on profitability of each product (both use the same raw material) when :
- 1) Total sales potential in units is limited;
  - 2) Total sales potential in value is limited;
  - 3) Raw material is in short supply;
  - 4) Production capacity (in terms of machine hours) is the limiting factor.
- (ii) Assuming raw material as the key factor, availability of which is 10,000 Kgs. and each product cannot be sold more than 3,500 units find out the product mix which will yield the maximum profit. [6 + 5 = 11]

Answer:

- (i) Statement showing computation of contribution per unit of different factors of production and determination of profitability

Sr. No.	Particulars	A (₹)	B (₹)
1.	Sales	100	120

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II.	Variable cost		
	Material	10	15
	Labour	15	10
	Direct expenses	5	6
	Variable OH	15	20
		45	51
III.	Contribution (i - ii)	55	69
IV.	P/V ratio (iii - i)	55%	57.5%
V.	Contribution per kg of material	55/2 = 27.5	69/3 = 23
VI.	Contribution per machine hour	55/3 = 18 1/3	69/2 = 34.5

From the above computations, we may comment upon the profitability in the following manner.

1. If total sales potential in units is limited, product B is more profitable, it has more contribution per unit.
2. When total sales in value is limited, product B is more profitable because it has higher P/V ratio.
3. If the raw material is in short supply, Product A is more profitable because it has more contribution per Kg of material.
4. If the production capacity is limited, product B is more profitable, because it has more contribution per machine hour.

**(ii) Statement showing optimum mix under given conditions and computation of profit at that mix:**

Sr. No.	Particulars	A (₹)	B (₹)	Total (₹)
I.	No. of units	3,500	1,000	
II.	Contribution per unit	55	69	
III.	Total contribution	1,92,500	69,000	2,61,500
IV.	Fixed cost (3500 × 5) (3500 × 10)	17,500	*35,000	52,500
V.	Profit			2,09,000

\* Fixed cost is taken at maximum capacity (3,500 × 10)

**Working Notes:**

Available material		Kg. = 10,000
(-) utilized for A (3,500 × 2)		= <u>7,000</u>
		= <u>3,000</u>

Units of B = 3,000 / 3 = 1,000

**(b) ABC Ltd. and MNO Ltd. sell identical products in identical market. Their budgeted income statement for the year 2015-2016 are as follows:**

	ABC Ltd. (₹)	MNO Ltd. (₹)
<b>Sales</b>	<b>5,00,000</b>	<b>6,00,000</b>
<b>Less: Variable Cost</b>	<b>(4,00,000)</b>	<b>(1,80,000)</b>
<b>Contribution</b>	<b>1,00,000</b>	<b>4,20,000</b>
<b>Less: Fixed Cost</b>	<b>(20,00)</b>	<b>(2,70,000)</b>

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<b>Budgeted Profit</b>	<b>80,000</b>	<b>1,50,000</b>
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**Calculate:**

- (i) BEP for each company;  
 (ii) Sales at which each company will earn a profit of ₹60,000; [2+2]

**Answer:**

- (i) B.E.P of ABC Ltd. = Fixed Cost / P.V ratio  
 P.V Ratio of ABC Ltd. =  $(1,00,000 / 5,00,000) \times 100 = 20\%$   
 B.E.P of ABC Ltd. =  $20,000 / 20\% = ₹1,00,000$

$$\text{B.E.P of MNO Ltd.} = \frac{2,70,000}{\frac{4,20,000}{6,00,000} \times 100} = ₹3,85,714$$

- (ii) Sales to earn a profit of ₹60,000 [using formula,  $S = (FC + P) \div C/S$  ratio]  
 Required Sales of ABC Ltd. =  $₹(20,000 + 60,000) \div 1/5 = ₹4,00,000$   
 Required sales of MNO Ltd. =  $₹(2,70,000 + 60,000) \div 7/10 = ₹4,71,429$

**7.(a) AVTAR LTD., operates a System of Standard Costing. The Company manufactures a Chemical Product by mixing three ingredients Chemical A, B and C and processes the same. The Standard Cost data for the product are as follows:**

Chemical	Percentage of total input	Standard Cost per kg. (₹)
A	50%	40
B	30%	60
C	20%	95

**Note:** Loss during processing is 5% of input and this has no realizable value. During the month of May, 2016, 10,200kg. of finished product was obtained from the Inputs as per details given below:

Chemical Consumed	Quantity purchased and issued	Actual Cost (₹)
A	5200 kg.	2,34,000
B	3600 kg.	2,19,600
C	1700 kg.	1,58,100

**You are required to calculate:**

- (i) Material Cost Variance  
 (ii) Material Price Variance  
 (iii) Material Usage Variance  
 (iv) Material Mix Variance  
 (v) Material Yield Variance [2x5=10]

**Answer:**

**AVTAR LTD.**  
**Standard cost of a Chemical Product**

Chemical	Percentage of input	Quantity (kg)	Standard cost per kg (₹)	Total cost (₹)
A	50%	0.50	40	20

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B	30%	0.30	60	18
C	20%	0.20	95	19
Total Input		1.00		57
Less: Loss on Processing (5%)		0.05		-
Output		0.95		57

Standard cost of a chemical Product =  $\frac{₹57}{0.95} = ₹60$

### COMPUTATION OF VARIANCES:

#### (1) Total material cost variances:

Standard cost of actual production (output) – actual material cost for production  
 =  $10,200 \times ₹60 - ₹(2,34,000 + 2,19,600 + 1,58,100)$   
 =  $₹6,12,000 - ₹6,11,700 = ₹300$ (FAV)

#### (2) Materials Price Variance:

(Std. Price – Actual) × Actual Qty consumed.

A:	[40 – (2,34,000/5,200)] × 5,200	₹26,000 (ADV)
B:	[60 – (2,19,600/3,600)] × 3,600	₹3,600 (ADV)
C:	[95 – (1,58,100/1,700)] × 1,700	₹ 3,400 (FAV)
		₹26,200 (ADV)

#### (3) Material Mix Variance:

= (Actual input in std. proportion – Actual input) × Std. cost of input/kg.

A:	[(0.50 × 10,500) - 5,200] × ₹40	₹2,000 (FAV)
B:	[(0.30 × 10,500) - 3,600] × ₹60	₹27,000 (ADV)
C:	[(0.20 × 10,500) - 1,700] × ₹95	₹38,000 (FAV)
		₹13,000(FAV)

#### (4) Yield Variance

(Std. yield from actual input – Actual output) × Std. cost of finished product  
 =  $(10,500 \times 0.95 - 10,200) \times ₹60 = ₹13,500$  (ADV)

#### (5) Usage variance:

Std. cost (output of Actual output – Std. cost of Actual Qty consumed.

=  $10,200 \times ₹60 - \left( \begin{array}{l} 5,200 \times ₹40 \\ 3,600 \times ₹60 \\ 1,700 \times ₹95 \end{array} \right) = ₹6,12,000 - ₹5,85,500$

=  $₹26,500$  (FAV)

Usage variance: Mix Variance + Yield variance

=  $₹13,000$ (FAV) +  $₹13,500$  (FAV) =  $₹26,500$  (FAV)

Total material cost variance:

Material Price variance + Material usage Variance

=  $₹26,200$  (ADV) +  $₹26,500$  (FAV)

=  $₹300$  (FAV).

(b) Prepare a Production Budget for three months ending March 31, 2016 for a factory producing four products, on the basis of the following information. [5]

Type of Product	Estimated Stock on Jan. 1, 2016	Estimated Sales during Jan. To Mar. 2016	Desired closing stock on 31.3.2016
<b>A</b>	<b>2,000</b>	<b>10,000</b>	<b>3,000</b>

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B	3,000	15,000	5,000
C	4,000	13,000	3,000
D	3,000	12,000	2,000

**Answer:**

### Production Budget for the 3 Months Ending 31<sup>st</sup> march 2016

Particulars	Product A	Product B	Product C	Product D
Sales	10,000	15,000	13,000	12,000
Add: Closing Stock	3,000	5,000	3,000	2,000
	13,000	20,000	16,000	14,000
Less: Opening Stock	2,000	3,000	4,000	3,000
Production (Units)	11,000	17,000	12,000	11,000

**8. Write short notes on any three of the following:**

**[5x3=15]**

- (a) Cost Absorption
- (b) Cost Control Vs. Cost Reduction
- (c) Just-in-Time (JIT)
- (d) Responsibility Accounting.

**Answer:**

**(a) Cost Absorption**

Ultimately the indirect costs or overhead as they are commonly known, will have to be distributed over the final products so that the charge is complete. This process is known as cost absorption, meaning thereby that the costs absorbed by the production during the period. Usually any of the following methods are adopted for cost absorption - (i) Direct Material Cost Percentage (ii) Direct Labour Cost Percentage (iii) Prime Cost Percentage (iv) Direct Labour Hour Rate Method (v) Machine Hour Rate, etc. The basis should be selected after careful maximum accuracy of Cost Distribution to various production units. The basis should be reviewed periodically and corrective action whatever needed should be taken for improving upon the accuracy of the absorption.

**(b) Cost Control Vs. Cost Reduction:** Both Cost Reduction and Cost Control are efficient tools of management but their concepts and procedure are widely different. The differences are summarized below:

Point	Cost Control	Cost Reduction
(a)	Cost Control represents efforts made towards achieving target or goal.	Cost Reduction represents the achievement in reduction of cost.
(b)	The process of Cost Control is to set up a target, ascertain the actual performance and compare it with the target, investigate the variances, and take remedial measures.	Cost Reduction is not concern with maintenance of performance according to standard.
(c)	Cost Control assumes the existence of standards or norms which are	Cost Reduction assumes the existence of concealed potential savings in standards

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	not challenged.	or norms which are therefore subjected to a constant challenge with a view to improvement by bringing out savings.
(d)	Cost Control is a preventive function. Costs are optimized before they are incurred.	Cost Reduction is a corrective function. It operates even when an efficient cost control system exists. There is room for reduction in the achieved costs under controlled conditions.
(e)	Cost Control lacks dynamic approach.	Cost Reduction is a continuous process of analysis by various methods of all the factors affecting costs, efforts and functions in an organization. The main stress is upon the why of a thing and the aim is to have continual economy in costs.

**(c) Just-in-Time:**

Just in time (JIT) is a production strategy that strives to improve a business return on investment by reducing in-process inventory and associated carrying costs. Inventory is seen as incurring costs, or waste, instead of adding and storing value, contrary to traditional accounting. In short, the Just-in-Time inventory system focuses on “the right material, at the right time, at the right place, and in the exact amount” without the safety net of inventory.

The advantages of Just-in-Time system are as follows:-

- Increased emphasis on supplier relationships. A company without inventory does not want a supply system problem that creates a part shortage. This makes supplier relationships extremely important.
- Supplies come in at regular intervals throughout the production day. Supply is synchronized with production demand and the optimal amount of inventory is on hand at any time. When parts move directly from the truck to the point of assembly, the need for storage facilities is reduced.
- Reduces the working capital requirements, as very little inventory is maintained.
- Minimizes storage space.
- Reduces the chance of inventory obsolescence or damage.

**(d) Responsibility Accounting:**

One of the recent developments in the field of management accounting is the responsibility accounting, which is helpful in exercising cost control. ‘Responsibility Accounting is a system of accounting that recognizes various responsibility centers throughout the organization and reflects the plans and actions of each of these centers by assigning particular revenues and costs to the one having the pertinent responsibility. It is also called profitability accounting and activity accounting.

It is a system in which the person holding the supervisory posts as president, function head, foreman, etc are given a report showing the performance of the company or department or section as the case may be. The report will show the data relating to operational results of the area and the items of which he is responsible for control. Responsibility accounting follows the basic principles of any system of cost control like budgetary control and standard costing. It differs only in the sense that it lays emphasis

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on human beings and fixes responsibilities for individuals. It is based on the belief that control can be exercised by human beings, so responsibilities should be fixed for individuals.

Principles of responsibility accounting are as follows:

- A target is fixed for each department or responsibility center.
- Actual performance is compared with the target.
- The variances from plan are analysed so as to fix the responsibility.
- Corrective action is taken by higher management and is communicated.