

- ii. The following data is related to Medgel Pvt. Ltd. - **6**
 Sales 16,000 units @ Rs. 15 (2,40,000), Variable cost (1,92,000), Contribution (48,000), Fixed cost (36,000), Profit (12,000)
 (a) What sales are needed to achieve the objective of no profit no loss?
 (b) What sales are needed to result in a net income of Rs. 11,000/-?
 The corporate income tax rate is 45%.
 (c) What should be the selling price per unit if the break even point is brought down to 10,000 units.
 (d) What will be the break even point if a 10% increase is effected in selling price?
 (e) What additional sales will be required to cover an increase of Rs.9,000 in fixed costs?
- OR iii. Describe any six uses of break even analysis. **6**
- Q.6 Attempt any two:
 i. From the following data, calculate Labour Variances: **5**

Workmen	Standard	Actual		
	Hours	Rate	Hours	Rate
A	4,500	20	3,600	25
B	3,000	30	3,150	20
Total	7,500		6,750	
Production	2000 units		2,060 units	

 ii. From the following data, calculate Material Variances: **5**
 The standard cost of a chemical mix is as under:
 40 tons of material X @ Rs. 160 per ton
 80 tons of material Y @ Rs. 180 per ton
 Standard Yield is 80% of input
 The actual cost for the period is as under:
 60 tons of material X @ Rs. 90 per ton
 70 tons of material Y @ Rs. 150 per ton
 Actual Yield is 100 tons.
- iii. Describe any five types of budgets. **5**



Knowledge is Power

Enrollment No.....**Faculty of Management Studies****End Sem (Odd) Examination Dec-2022****MS3CO09 Cost and Management Accounting****Programme: BBA****Branch/Specialisation:****Management****Maximum Marks: 60****Duration: 3 Hrs.**

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d.

- Q.1 i. Prime cost plus variable overhead is known as- **1**
 (a) Marginal cost (b) Total cost
 (c) Cost of sales (d) Production cost
- ii. Consumable stores is- **1**
 (a) Administrative overhead (b) Distribution overhead
 (c) Selling overhead (d) Factory overhead
- iii. If Prime cost is Rs.50,000, Works cost is Rs. 70,000, and office overheads are 50% of factory overhead then what would be the production cost? **1**
 (a) Rs. 1,10,000 (b) Rs. 1,00,000
 (c) Rs. 90,000 (d) Rs. 80,000
- iv. Which method of costing is used in mass production industries? **1**
 (a) Job costing (b) Batch costing
 (c) Contract costing (d) Process costing
- v. Under the FIFO method closing stock is valued at what rate? **1**
 (a) Standard rate (b) Weighted rate
 (c) Average rate (d) Present latest rate
- vi. Annual consumption of material is 3,00,000 units and its Economic Order Quantity is 4,000 units then No of order to be placed during the year will be- **1**
 (a) 150 (b) 100
 (c) 50 (d) 75
- vii. When profit is Rs.10,000, Fixed cost is Rs.30,000, P/V ratio is 40% then sales are- **1**
 (a) Rs. 4,00,000 (b) Rs. 3,00,000
 (c) Rs. 2,00,000 (d) Rs. 1,00,000

P.T.O.

[2]

Indirect amounted to Rs.1100 may be apportioned on the basis of wages. No account needs be taken in hand and work in progress at the beginning and close of the month.

1

- Q.4** i. A company uses annually 12,000 lbs of chemical which costs of Rs.2.50 per lb placing each order costs the company Rs. 22.50 and carrying cost is 15% of the cost of the average inventory of the chemical per annum - 3

(a) Find out the economic order quantity and the total expenses on the chemical.

(b) If in addition the company decides to maintain a safety stock of 300 lbs, find the maximum and the average inventory.

ii. The following is the receipts and issues of an item of stores for the month of December 2021- 7

Receipts Dates -	01	14	20	27
Receipts Qty. in kg. -	500	20	200	15
Rate -	20	20	22	20
Issues Dates -	03	04	07	16
Issues Qty. in kg. -	70	100	80	200

Issues are to be priced on the basis of FIFO. The stock verifier reported a shortage of 5 kg, on 15th Dec. 2021 and 7 kg. on 31st Dec. 2021. Prepare a Store Ledger Account.

OR iii. The following is the receipts and issues of an item of store for the month of March 2021- 7

Receipts Dates -	01	05	09	13
Receipts Qty. in kg. -	2,000	3,000	2,000	3,000
Rate -	10	14	15	18
Issues Dates -	03	07	11	15
Issues Qty. in kg. -	500	2,000	3,000	2,500

Prepare a Store Ledger Account.

Q.5 i. Bhamini Ltd. produces one standard type of article. Their results during first three months of the year as follows - 4

Month	January	February	March
Output	100	150	500

Prime Cost Rs.8/- per unit, Variable Overheads Rs.2/- per unit, Fixed Overheads Rs.36,000/- per month.

Prepare a cost statement on the basis of marginal costing.

P.T.O.

Marking Scheme

MS3CO09 Cost and Management Accounting

Q.1			
i.	Prime cost plus variable overhead is known as-	1	
	(a) Marginal cost	1	
ii.	Consumable stores is-	1	
	(d) Factory overhead	1	
iii.	If Prime cost is Rs.50,000, Works cost is Rs. 70,000, and office overheads are 50% of factory overhead then what would be the production cost?	1	
	(d) Rs. 80,000	1	
iv.	Which method of costing is used in mass production industries?	1	
	(d) Process costing	1	
v.	Under the FIFO method closing stock is valued at what rate?	1	
	(d) Present latest rate	1	
vi.	Annual consumption of material is 3,00,000 units and its Economic Order Quantity is 4,000 units then No of order to be placed during the year will be-	1	
	(d) 75	1	
vii.	When profit is Rs.10,000, Fixed cost is Rs.30,000, P/V ratio is 40% then sales are-	1	
	(d) Rs. 1,00,000	1	
viii.	Product cost in marginal costing means-	1	
	(d) Prime cost+Variable cost	1	
ix.	If actual material cost is 900 units at Rs. 8 per unit and standard material cost is Rs.1,000 unit at Rs. 6 per unit, then material cost variance is-	1	
	(d) Rs. 1,200 (A)	1	
x.	The cost of a product as determined under standard cost system is-	1	
	(d) Predetermined cost	1	
Q.2			
i.	Define the term cost and cost accounting.	2	
ii.	Define the term management accounting and its scope.	3	
iii.	Any five objectives and five functions of management accounting.	5	
OR	iv. Differentiate between cost accounting and management accounting.	5	
Q.3			
i.	Describe cost centre and cost unit.	2	
ii.	Calculate selling price of each article preparing cost sheet.	8	
	Stepwise marking	8	
OR	iii. Prepare a Process Account showing the cost per article in each of	8	
Q.4			
i.	(a) Find out the economic order quantity and the total expenses on the chemical.	3	
	(b) If in addition the company decides to maintain a safety stock of 300 lbs, find the maximum and the average inventory.	7	
	Stepwise marking	7	
ii.	Issues are to be priced on the basis of FIFO.Prepare a Store Ledger Account.	7	
	Stepwise marking	7	
OR	iii. Prepare a Store Ledger Account.	7	
	Stepwise marking	7	
Q.5			
i.	Bhamini Ltd. produces one standard type of article. Their results during first three months of the year as follows -	4	
	Month January February March		
	Output 100 150 500		
	Prime Cost Rs.8/- per unit, Variable Overheads Rs.2/- per unit, Fixed Overheads Rs.36.000- per month.		
	Prepare a cost statement on the basis of marginal costing.		
ii.	Stepwise marking	6	
OR	iii. Describe any six uses of break even analysis.	6	
Q.6			
i.	Attempt any two:		
	i. From the following data, calculate Labour Variances:	5	
	Workmen Standard Actual		
	Hours Rate Hours Rate		
	A 4,500 20 3,600 25		
	B 3,000 30 3,150 20		
	Total 7,500 6,750		
	Production 2000 units 2,060 units		
ii.	From the following data, calculate Material Variances:	5	
	Stepwise marking		
iii.	Any five types of budgets.	5	

Q.3 (ii)

Statement of Cost and Profit

Particulars

 $\times = 100$ units $Y = 100$ units

Total

	Total Cost	Cost per unit	Total Cost	Cost per Unit	
Material	28000	280	20,000	200	48000
Direct Wages	16000	160	10,000	100	26000
Direct Expenses	3000	30	2000	20	5000
Prime Cost	47000	470	32,000	320	79000
Factory Expenses (8:5)	8000	80	5,000	50	13000
Work Cost	55,000	550	37,000	370	92,000
Office Expenses (55:37)	4400	44	2960	29.6	7360
Cost of Production	59400	594	39960	399.6	99360
Profit	19800	198	13320	133.2	33120
Sales	79200	792	53280	532.8	132480

* $\text{Profit} = \text{Cost} \times \frac{25}{75}$

- * Factory Expenses will be divided in Direct Labour cost ratio i.e. Wages Ratio
- * Office overheads will be divided in Factory cost Ratio.

P.C. = 50 cm

(H) F.C. = 70 cm
F.O. = 20 cm
~~60 cm~~
(Add) 180 cm

Solution :

Process A A/c output (400 units)

Particulars	Cost per unit ₹	Total cost ₹	Particulars	Cost per unit ₹	Total cost ₹
To Material	10.00	4,000	By Process B A/c	20.25	8,100
To Wages	5.00	2,000	(Output transferred)		
To Direct Expenses	4.00	1,600			
To Indirect Expenses (1,100 × 5/11)	1.25	500			
	20.25	8,100		20.25	8,100

Process B A/c

Particulars	Cost per unit ₹	Total cost ₹	Particulars	Cost per unit ₹	Total cost ₹
To Process A A/c	20.25	8,100	By Process C A/c	31.25	12,500
To Material	5.00	2,000	(Output transferred)		
To Wages	4.00	1,600			
To Direct Expenses	1.00	400			
To Indirect Expenses (1,100 × 4/11)	1.00	400		31.25	12,500
	31.25	12,500		31.25	12,500

Process C A/c

Particulars	Cost per unit ₹	Total cost ₹	Particulars	Cost per unit ₹	Total cost ₹
To Process B A/c	31.25	12,500	By Finished Stock A/c	39.75	15,900
To Material	5.00	2,000			
To Wages	4.00	1,600			
To Direct Expenses	1.00	400			
To Indirect Expenses 1100 × 2/11	0.50	200		39.75	15,900
	39.75	15,900		39.75	15,900

Production Order for 150 Units

Particulars	Process A		Process B		Process C		Total	
	Cost per unit ₹	Total ₹	Cost per unit ₹	Total ₹	Cost per unit ₹	Total ₹	Cost per unit ₹	Total ₹
Material	150 × 10.00	1,500.00	150 × 5.00	750	50 × 5.00	750	20.00	3,000.00
Wages	150 × 5.00	750.00	150 × 4.00	600	50 × 2.00	300	11.00	1,650.00
Direct Expenses	150 × 4.00	600.00	150 × 1.00	150	50 × 1.00	150	6.00	900.00
Indirect Expenses	150 × 1.25	187.50	150 × 1.00	150	50 × 0.50	75	2.75	412.50
Total Cost	20.25	3,037.50	11.00	1,650	8.50	1,275	39.75	5,962.50

~~Ques~~ A company uses annually 12,000 lbs of chemical which costs ₹ 2.50 per lb placing each order costs the company ₹ 22.50 and the carrying cost is 15% of the cost of the average inventory of the chemical per annum-

- (1) Find out the economic order quantity and the total expenses on the chemical.
- (2) If on addition the company decides to maintain a safety stock of 300 lbs, find the maximum and the average inventory.

Solution :

$$(A) EOQ = \sqrt{\frac{2U \times O}{C}} = \sqrt{\frac{2 \times 12,000 \times 22.50}{0.375}} = 1200 \text{ units}$$

Total Cost = Ordering Cost + Carrying Cost + Purchase Cost

$$\text{Ordering Cost} = \frac{\text{Annual Usage}}{\text{Economic Order Quantity}} \times \text{Ordering Cost (per order)}$$

$$= \frac{12,000}{1,200} \times ₹ 22.50 = 225$$

$$\text{Total Carrying Cost} = \frac{\text{Economic Order Quantity}}{2} \times \text{Carrying cost}$$

$$= \frac{1,200}{2} \times 0.375 = ₹ 225$$

$$\text{Purchase cost} = 12,000 \times 2.50 = ₹ 30,000$$

$$\text{Total Cost} = 225 + 225 + 30,000 = ₹ 30,450$$

$$(B) (i) \text{ Maximum Stock} = EOQ + \text{Safety Stock}$$

$$= 1,200 + 300 = 1,500 \text{ lbs}$$

Accounting for Material Issue of Materials Inventory Control / 43

$$\text{(ii) Average Inventory} = \frac{\text{Maximum Stock} + \text{Minimum Stock}}{2}$$
$$= \frac{1,500 + 300}{2} = 900$$

► Note : Minimum Stock = Safety Stock

$$C = 15\% \text{ of } 2.50 = .375$$

Q. 4
(ii)

Account
Solution :

Store Ledger Account (FIFO Method)

Date 2013	Receipts			Issues			Balance		
	Qty.	Rate ₹	Amount ₹	Qty.	Rate ₹	Amount ₹	Qty.	Rate ₹	Amount ₹
1	500	20	10,000	—	—	—	500	20	10,000
3	—	—	—	70	20	1,400	430	20	8,600
4	—	—	—	100	20	2,000	330	20	6,600
7	—	—	—	80	20	1,600	250	20	5,000
14	20	20	400	—	—	—	270	20	5,400
15	—	—	—	5	20	100	265	20	5,300
				(Shortage)					
16	—	—	—	200	20	4,000	65	20	1,300
20	200	22	4,400	—	—	—	65	20	—
25	—	—	—	65	20	—	65	22	1,430
27	15	20	300	—	—	—	65	22	1,730
31	—	—	—	7	22	154	58	22	—
				(Shortage)			15	20	1,576

► Note : Here the shortage of 12 kg (5 + 7) shall be charged to work overhead assuming that the Loss and Shortage are normal. In case of abnormal loss or shortage the total amount will be charged to costing Profit & Loss A/c and not to Work overhead.

Q.4
(iii)

[Based on more 2008]

Solution :

FIFO Method

(Store Ledger Account)

Date	Receipts			Issues			Balance		
	Qty.	Rate ₹	Amount ₹	Qty.	Rate ₹	Amount ₹	Qty.	Rate ₹	Amount ₹
3-1-2008	2,000	1.00	2,000				2,000	1.00	2,000
4-1-2008				500	1.00	500	1,500	1.00	1,500
5-1-2008	3,000	1.40	4,200				1,500	1.00	1,500
7-1-2008				1,500	1.00	1,500	3,000	1.40	5,700
10-1-2008	2,000	1.50	3,000		500	1.40	2,200	2,500	1.40
15-1-2008				2,500	1.40	2,500	2,000	1.50	6,500
20-1-2008	3,000	1.80	5,400		500	1.50	4,250	1,500	1.50
25-1-2008				1,500	1.50	1,500	3,000	1.80	7,650
				1,000	1.80	4,050	2,000	1.80	3,600

Q2
(iii)

solution : **LIFO Method** **(Store Ledger Account)**

Date	Receipts			Issues			Balance		
	Qty.	Rate ₹	Amount ₹	Qty.	Rate ₹	Amount ₹	Qty.	Rate ₹	Amount ₹
3-1-2008	2,000	1.00	2,000				2,000	1.00	2,000
4-1-2008				500	1.00	500	1,500	1.00	1,500
5-1-2008	3,000	1.40	4,200				1,500	1.00	
							3,000	1.40	5,700
7-1-2008				2,000	1.40	2,800	1,500	1.00	
							1,000	1.40	2,900
10-1-2008	2,000	1.50	3,000				1,500	1.00	
							1,000	1.40	5,900
							2,000	1.50	
15-1-2008				2,000	1.50				
				1,000	1.40	4,400	1,500	1.00	1,500
20-1-2008	3,000	1.80	5,400				1,500	1.00	
							3,000	1.80	6,900
25-1-2008				2,500	1.80	4,500	1,500	1.00	
							500	1.80	2,400

Q.S II

1

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Sales - 16000 units @ Rs 15 = 240 m

VC - 192 m

C - 48 m

FC - 36 m

Profit - 12 m

$$BEP(\text{Sales}) \quad PV \text{ Ratio} = \frac{C}{\text{Sales}}$$

$$\begin{aligned} PV \text{ Ratio} &= \frac{48000}{240 \text{ m}} \times 100 \\ &\approx 20\% \end{aligned}$$

$$BEP = \frac{FC}{PV \text{ Ratio}} = \frac{36 \text{ m}}{20} \times 100$$

① $BEP(\text{Sales}) = \underline{\text{Rs } 180 \text{ m}} \text{ sa}$

② Desired Profit (11 m) if C Tax 45%
Sales Revert to earn profit

$$= \frac{\text{Desired Profit} + FC}{PV \text{ Ratio}}$$

$$= \frac{11 \text{ m} + 36 \text{ m}}{20} \times 100$$

= 235 m sales

2

$$BEP(\text{Units}) = \frac{FC}{S(\text{Unit}) - VC(\text{Unit})}$$

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3

Selling price per Unit

If BEP (Units) = 10,000 Units

$$\cancel{BEP} = \frac{\cancel{FC}}{\cancel{PV \text{ Ratio}}}$$

$$10,000 = \frac{FC}{PV \text{ Ratio}}$$

$$BEP(\text{Units}) = \frac{FC \ 36 \text{ m}}{10,000 = S(\text{Unit}) - 12}$$

$$10,000 = \frac{36 \text{ m}}{S - 12}$$

$$10,000(S - 12) = 36 \text{ m}$$

$$S - 12 = \frac{36 \text{ m}}{10,000}$$

$$S = 3.6 + 12$$

$$S = 15.6$$

Current S. Price = 15

Reduced BEP = 10,000 Units

VC = 12

$$\text{New PV Ratio} = \frac{Sp - V_p}{Sp} \times 100 \\ =$$

Q5
what will be the break even point if a
10% increase is effected in SP

Current SP = RS 15

$$\text{Increase Reduced by } 10\% = 15 + \left(15 \times \frac{10}{100}\right)$$
$$= 15 + 1.5$$
$$= 16.5$$

$$VC = 12$$

$$\text{New PV Ratio} = \frac{16.5 - 12}{16.5} \times 100$$
$$= \frac{14.5}{16.5} \times 100$$
$$= 0.8787 \times 100$$
$$= 87.87\%$$

$$\text{So New BEP}_{\text{Un}} = \frac{FC}{\text{PVR}} = \frac{36 \text{ Rs}}{87.87}$$

$$\text{BEP}_{\text{RS}} = 40,970 \text{ according to question}$$

Q6

(II)

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Material	Standard Mix	Actual mix	SQ for Actual production
X	$40 \times 160 = 6400$	$60 \times 90 = 5400$	120 tons
Y	$80 \times 180 = 14400$	$70 \times 150 = 10500$	41.67
Input	120 tons	130 — 15900	83.33
Loss	$20\% \text{ loss} = 24$	00 —	- 20%
Output	96 Tons - 20800	100 tons - 15900	100 Tons

We have std Y is 80% off input

Calculation of SQ

$$\text{for } X \quad \frac{40}{96} \times 100 \text{ tons}$$

$$\underline{41.67} \quad \cancel{44.44}$$

$$= \frac{\text{std output}}{\text{actual output}} \times \text{Act Output}$$

$$\text{for } Y = \frac{80}{96} \times 100$$

$$= 83.33$$

$$\text{MCV for } X = (SQ \times SP) - (AQ \times AP)$$

$$= (41.67 \times 160) - (60 \times 90)$$

$$= 6667.2 - 5400$$

$$= 1267.2 (\text{F})$$

$$Y = (SQ \times SP) - (AQ \times AP)$$

$$= (83.33 \times 180) - (70 \times 150)$$

$$= 14999.4 - 10500$$

$$= 4499.4 (\text{F})$$

$$\underline{MPV} = (SP - AP) \times AQ$$

$$\text{for } X = (160 - 90) \times 60 \\ = 360 \text{ Rs} 4200/- (\text{F})$$

$$\text{for } Y = (180 - 150) \times 70 \\ = 2100 (\text{F})$$

$$\underline{MUV} = (SP) \times (\underline{AQ} - A\bar{Q})$$

$$\text{for } X = 160 \\ (160) \times (40 - 60) \\ = -3200 (\text{UnF}) \\ = 2932.8 (\text{UnF})$$

$$\text{for } Y = 180 \\ (180) \times (80 - 70) \\ = 1800 (\text{F}) \\ = 2399.4 (\text{F})$$

$$\underline{MMV} = (R\bar{Q} - A\bar{Q}) \times (SP)$$

$$\underline{MMV} = (\text{SC of RSM}) - (\text{SC of AM})$$

calculation of $R\bar{Q}$ or RSM

for X

$$R\bar{Q}_X = \frac{\text{std Q}}{\text{Total std M}} \times \text{Actual M}$$

$$= \frac{40}{120} \times 130$$

$$R\bar{Q}_X = 43.33$$

for Y

$$\frac{280}{320} \times 130$$

$$86.667$$

$$MMV = (\text{SC of RSM}) - (\text{SC of AM})$$

$$\text{for } x = (43.33 \times 160) - (160 \times 60)$$

$$= 6932.8 - 9600$$

$$= -2667.2 \text{ (Unf)}$$

$$MMV \text{ for } y = (\text{SC of RSM}) - (\text{SC of AM})$$

$$= (86.67 \times 180) - (180 \times 70)$$

$$= 15588 - 12600$$

$$= 2988 \text{ (F)}$$

$$MMC = (RSR - AR) \times SP$$

For x

$$x = (43.33 - 60) \times 160$$

$$x = -16.67 \times 160$$

$$= -2667.2 \text{ (Unf)}$$

for y

$$y = (86.67 - 70) \times 180$$

$$= 16.67 \times 180$$

$$= 3000.6 \text{ (F)}$$

$$MYV = (\text{ASC}) \times (\text{SL on AM}) - (\text{AL on AM})$$

$$\text{for } x = \frac{20800 \times (20^\circ \text{ of } 120 - 24 - 30)}{\sqrt{96}}$$

$$= \frac{20800}{96} \times (-6)$$

$$= -13.00 \text{ (Unf)}$$

$$\text{MIV} = \text{ASC} \times (\text{sy of AM}) - (\text{Ay of AM})$$

$$= \frac{20800}{96} \times (80\% \text{ of } 130) - (100)$$

$$= 216.667 \times (104 - 100)$$

$$= 216.667 \times 4$$

$$= 866.68$$