

Subject Costing

Number of Answer Books used : Main + ..... additional sheets

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714541



Paper Code

S  
F  
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1

A B C D E F G H I J K L M N O P Q R T U V W X Y Z  
A B C D E G H I J K L M N O P Q R S T U V W X Y Z  
A B C D E F G H I J K L M N O P Q S T U V W X Y Z

MCQ Booklet Serial No.

Paper No. (See Reverse)

Level of Exam →

Intermediate (1) Final (2)

Stream →

Old (1) New (2)

Answers

0 0 0 0 0 0 0  
1 1 1 1 1 1 1  
2 2 2 2 2 2 2  
3 3 3 3 3 3 3  
4 4 4 4 4 4 4  
5 5 5 5 5 5 5  
6 6 6 6 6 6 6  
7 7 7 7 7 7 7  
8 8 8 8 8 8 8  
9 9 9 9 9 9 9

2  
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1	A B C D	11	A B C D	21	A B C D
2	A B C D	12	A B C D	22	A B C D
3	A B C D	13	A B C D	23	A B C D
4	A B C D	14	A B C D	24	A B C D
5	A B C D	15	A B C D	25	A B C D
6	A B C D	16	A B C D	26	A B C D
7	A B C D	17	A B C D	27	A B C D
8	A B C D	18	A B C D	28	A B C D
9	A B C D	19	A B C D	29	A B C D
10	A B C D	20	A B C D	30	A B C D





03

Ans 1 (a) i)

1 (a) i)

Annual Demand ( $D$ ) = 1,35,000 units  
 Set up cost of each batch ( $S$ ) = 3,375 Rs  
 Holding cost ( $H$ ) = 5 Rs per unit

Economic Batch Quantity (EBQ) =  $\sqrt{\frac{2DS}{H}}$   
 $= \sqrt{\frac{2 \times 1,35,000 \times 3,375}{5}}$   
 $= 13,500$  Batch size

(ii)

Particulars

EBQ = 13,500

7500 units

Setup cost

$$\frac{1,35,000 \times 3,375}{13,500}$$

$$= 33,750$$

$$\frac{1,35,000 \times 3,375}{7,500}$$

$$= 60,750$$

Holding cost

$$\frac{13,500 \times 5}{2}$$

$$= 33,750$$

$$\frac{7,500 \times 5}{2}$$

$$= 18,750$$

Total cost

67,500

79,500

Additional Cost = Rs 12,000 (79,500 - 67,500)



04

Ans 1 (b)1 (b)  $\frac{\text{Time}}{\text{Rate}}$ 

$$\begin{aligned}
 &= \text{Hours worked} \times \text{Rate / hour} \\
 &= (48 \times 150) + (27 \times 300) \\
 &= 7200 \text{ Rs} + 8100 \\
 &= 15,300 \text{ Rs}
 \end{aligned}$$

Step 1

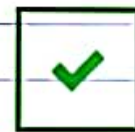


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$$\begin{aligned}
 \text{Standard} &= \frac{60 \text{ hours}}{80 \text{ toys}} = \frac{\text{Hours}}{100 \text{ toys}} \\
 \text{Hours} &= 75 \text{ Hours}
 \end{aligned}$$



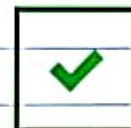
J1- Rowan



$$\text{AR} \text{ AH} \times R + \frac{\text{AH} (\text{SH} - \text{AH})}{\text{SH}} \times R$$

$$\Rightarrow 48 \times 150 + \frac{48 (75 - 48)}{75} \times 450$$

$$= 9792 \text{ Rs}$$





05



3)

Hulsey

$$AR \times R + 50\% (SH - AH) \times R$$

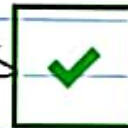
$$= 748 \times 150 + 50\% (75 - 48) \times 15$$

$$= 9225 R$$

bStep2



4



Working Note

2)

$$\frac{60 \text{ hrs}}{80 \text{ hrs}} = \frac{75 \text{ hrs}}{100 \text{ hrs}}$$

1b



4



(Ans) (c)

1 (c)

$$\begin{aligned}
 \text{(i) Break even sales (₹) (BEP)} &= \frac{\text{Fixed Cost}}{\text{Profit Volume Ratio}} \\
 &= \frac{12,60,000}{30\%}
 \end{aligned}$$

$$= 42,00,000 \text{ Rs}$$

$$\begin{aligned}
 \text{(ii) Total Sales Value} & \quad \checkmark \\
 \text{BEP \%} &= 100 - \text{Mos \%} \\
 &= 100 - 25\% \\
 &= 75\%
 \end{aligned}$$

$$\begin{aligned}
 \text{Sales} &= \frac{\text{BEP (₹)}}{\text{BEP (\%)}} \\
 &= \frac{42,00,000}{75\%} = 56,00,000 \quad \checkmark
 \end{aligned}$$

$$\begin{aligned}
 \text{(iii) Profit} &= (56,00,000 \times 30\%) - 12,60,000 \\
 &= 4,20,000
 \end{aligned}$$

$$\begin{aligned}
 \text{Sales (Rs)} &= \frac{\text{Desired Profit} + \text{Fixed Cost}}{\text{P/V Ratio}} \\
 &= \frac{4,20,000 + (12,60,000 - 12,60,000)}{20\%}
 \end{aligned}$$



07



(iv) 
$$\begin{aligned} \text{Sales} &= x && \text{(Assume)} \\ \text{Contribution} &= 0.3x \\ \text{Fixed Cost} &= 12,60,000 \\ \text{Profit} &= 0.2x \end{aligned}$$

$$0.3x = 12,60,000 + 0.2x$$

$$0.1x = 12,60,000$$

$$x = 1,26,00,000$$

$$\text{Sales (Rs)} = 1,26,00,000 \text{ Rs}$$

(v) 
$$\begin{aligned} \text{Sale Value} &= 56,00,000 \\ \text{Adjusted Sale Value} &= 49,28,000 \end{aligned}$$

$$\begin{aligned} \text{Margin of Safety} &= \frac{\text{Profit}}{\text{P/V Ratio}} \\ &= \frac{2,18,400}{30\%} \\ &= 7,28,000 \text{ Rs} \end{aligned}$$

Working Note

$$\begin{aligned} \text{D Profit} &= (49,28,000 \times 30\%) - 12,60,000 \\ &= 2,18,400 \end{aligned}$$



08

Ans (d)

1 d)

=

(i)

Light weight = 50,000 - 10% = 45,000

Medium weight = 12,000

Heavy weight = 10,000

Total Cost of operation and  
maintenance

Cost = 59,09,090

+ 10% profit = 59,09,09Total taking = 64,99,999  $\rightarrow$  65,00,000

Equivalent weights

Light weight = 50,000 - 10% = 45,000  $\times$  1 = 45,000Medium weight = 12,000  $\times$  2.5 = 30,000Heavy weight = 10,000  $\times$  5 = 50,000

Equivalent Vehicle 1,25,000

Cost per toll =  $\frac{65,00,000}{1,25,000} = 52 \text{ Rs}$ 

Light weight = 52 Rs

Medium weight = 52  $\times$  2.5 = 130 RsHeavy weight = 52  $\times$  5 = 260 Rs

100%

120%

140%

160%

180%

200%



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09



(I) Equivalent Vehicles

Light weight = 50,000 ~~to~~

50,000 → 70% 35,000 - 10% = 31,500

→ 30% 15,000 - 10% = 13,500

Medium and Heavy weight = 80,000

1,25,000

Toll Rate =  $\frac{65,00,000}{1,25,000}$

52 Rs

52 Rs



Light weight = 50,000

~~35,000~~ 31,500 × 52 = 16,38,000

13,500 × (52 - 25% of 52) = 5,26,500

~~Heavy~~ Medium weight

30,000 × 130 = 39,00,000 Rs



Step 2



0

Heavy weight

50,000 × 260 = 1,30,00,000 Rs

1d



3

1



16

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1 Ans 2 (a)

2 (a) (i) Consumption of Raw Materials

Particulars	January	Feb	March	April
Opening	6020	—	—	104
Purchased	4561.2	5647.2	6516	4995
Closing	—	—	(104.4)	(5100)
	10,581.2	5647.2	<del>6516</del> 6,620.4	<del>5100</del>

Total Production =

$$\text{Jan} = (50 \times 4) \times 25 = 5000$$

$$\text{Feb} = (55 \times 4) \times 24 = 5280$$

$$\text{March} = (60 \times 4) \times 26 = 6240$$

$$\text{April} = (52 \times 254) \times 25 = 5200$$

$$\text{Total} = 21,720$$



100%

120%

140%

160%

180%

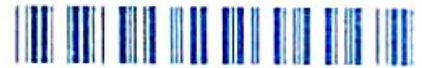
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11



(ii) Month of April

$$6020 = 63,210$$

$$4561.2 \times 10 = \frac{45612}{1,08,822 \text{ Rs}}$$



Feb =  $5647.2 \times 10 = 56,472 \text{ Rs}$

March =  $6,620.4 \times 10 = 66,204 \text{ Rs}$

April = —



(iii) FIFO Method

DATE

RECEIPTS

ISSUED

BALANCE

DATE	Qty	Rate	Amount	Qty	Rate	Amount	Qty	Rate
1 Jun	6020	10.5	63,210	—	—	—	6020	10.5
	4561.2	10	45,612	—	—	—	6020	10.5
							4561.2	10



100%

120%

140%

160%

180%

200%



/ 28



12

Ans 2(b)

2(b)+

Contract A/C for both years

Particulars	Year I	Year II	Particulars	Year I	Year II
To Material	12,50,000	13,65,000	By Work in process		
To Wages	12,50,000	11,44,000	Value of work certified	32,00,000	70,00,000
To Direct expenses	4,20,000	3,80,000	Cost of work uncertified	2,19,000	—
To Indirect expenses	2,70,000	2,60,000			
To Work in process					
Value of work certified	—	32,00,000			
Cost of work uncertified	—	2,19,000			
To Depreciation on Plant	85,000	85,000			
To Provision (B/F)	1,44,000	3,47,000			
Profit					
	34,19,000	70,00,000		34,19,000	70,00,000

Step 1  2

Step 2  2



Escalation clause

Standard Material (II year) (~~80~~) Standard Price (SP)  
12000 units 90

Actual Material (A) Actual Price (AP)  
13000 units 105

Standard ~~Hours~~ Hours (SH) Standard Rate (SR)  
9000 120

Actual Hours (AH) Actual Rate (AR)

8800 130

$$\begin{aligned} \text{Escalation clause} &= (\cancel{AR - SR}) \times \cancel{SH} \\ \text{Material} &= (AP - SP) \times SQ \\ &= (105 - 90) \times 12000 \end{aligned}$$

$$\text{Increase in cost of Material} = 180,000 \text{ Rs}$$

$$\begin{aligned} \text{Labour} &= (AR - SR) \times \boxed{SH} \\ &= (130 - 120) \times 9000 \end{aligned}$$

$$\text{Increase in cost of Labour} = 90,000 \text{ Rs}$$

(ii) New Contract Price

Old Contract Price = 70,00,000

/ 28

100%

120%

140%

160%

180%

200%



14

ep3



3

+ Labour = 90,000  
 New Contract Price = 72,70,000 ✓

(iii) Increase / Decrease in 1st year

Material	SC	SP	AC	AP
	12000	90	12500	100

$$= (AP - SP) \times SC = (100 - 90) \times 12000 = 120000 \text{ (increase)}$$
✓

Labour	SH	SR	AH	AR
	10,000	120	109,000	125

$$= (AR - SR) \times SH = (125 - 120) \times 10,000 = 50,000 \text{ (increase)}$$
✓

ep4



0

2b



7

2



9

100%

120%

140%

160%

180%

200%



/ 28



15



Ans 3 (a)

3 (a) Particulars <del>Particulars</del>	Budget (1 <sup>st</sup> year)		
	X	Y	Z
Sales	1,50,00,000	<del>67,20,000</del> 2,68,80,000	<del>64,00,000</del> 1,52,56,150
Direct Material	50,00,000	56,00,000	64,00,000
Direct Wages	40,00,000	67,20,000	51,20,000
Overhead Cost Variable	10,00,000	16,80,000	12,80,000
Contribution	50,00,000	1,28,80,000	<del>51,20,000</del> 25,60,000



Selling Price of X =  $1.25 \times 2 = 2.5$

~~Price of X = 2~~  $2 = 48$

~~X = 2~~

X = 60

~~Sales of Z =~~

Y = 24,96

Z = Sale (Rs) =

Profit =  $64,00,000 + 51,20,000 + 12,80,000 \times 20\%$

= 25,60,000 Rs

~~Z = 20% Profit~~

Step 1



4



Total Contribution = 2,04,40,000  
 - Fixed Cost = 13,20,000  
 Profit = 1,91,20,000

Net - year



Particulars	X	Y	Z	Total
Sale Value	1,68,00,000	2,55,36,000	1,76,64,000	4,23,30,000
- Direct Material	50,00,000	56,00,000	64,00,000	
Direct wages	40,00,000	67,20,000	51,20,000	
Overhead cost				
Variable	10,00,000	16,80,000	12,80,000	
Fixed				
Contribution	68,00,000	1,15,36,000	48,64,000	

Total Contribution 2,32,00,000  
 - Fixed Cost 15,48,000  
 Profit 2,16,52,000





## Working Notes

1) Marginal Cost =  $20x$   
 Sales =  $\frac{20}{120} \times 100 = 16.66\%$

2) Overhead's	X	Y	Z
Labour hrs	$\frac{16}{4}$	$\frac{24}{4}$	$\frac{16}{4}$
Hours =	4	6	4
Units	2,50,000	2,80,000	3,20,000
Total hours	10,00,000	16,80,000	12,80,000
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3 (6)

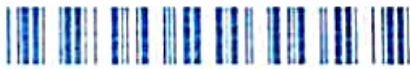
Ans 3 (6)

  
 Cost Sheet

(i)

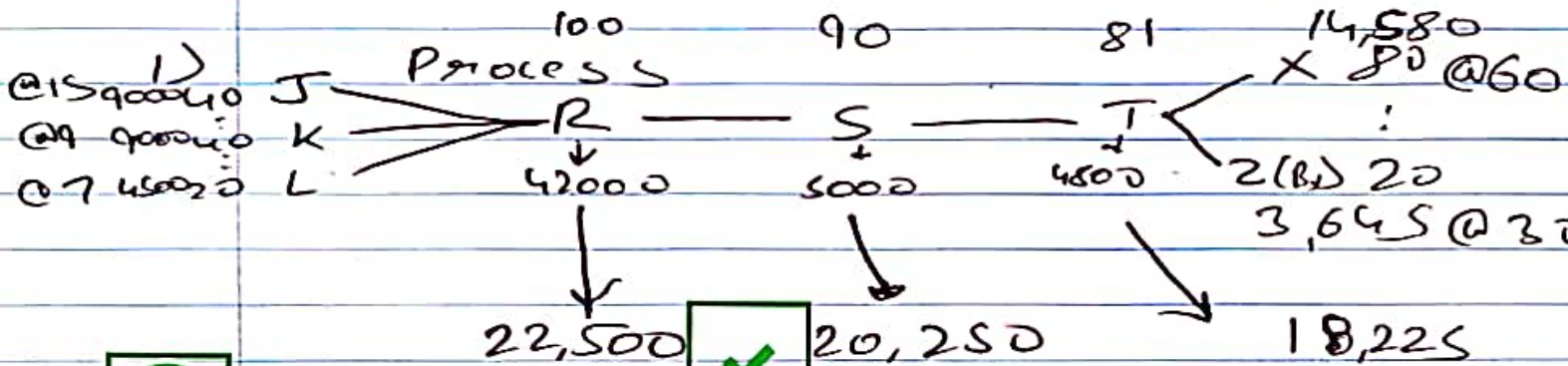
Particulars	Per Unit	Amount
Opening stock of Raw Material 42,500		
+ Purchased 6,95,000		
- closing stock (38,600)		
Raw Material Consumed	4.59 <del>2.7956</del>	6,98,900
Direct Wages	2.12	3,22,800
Direct Expenses		
Carriage inward	0.23	22,000
Royalty paid for production	0.23	35,800
Purchase of special designs	0.08	12,800
Power Fuel and haulage	0.46	70,000
Prime Cost	7.74	11,77,100
+ Factory Overheads		
Salary and wages for supervisor and foreman	0.18	2800
Gross Factory cost	7.92	12,05,100
+ Opening work-in-progress 42,500		
- closing work-in-progress (42,800)		
Net Factory cost	7.926	12,04,800
Research and development	0.27	31,168
Prime, Packing	0.047	6920
Cost of Production	8.18	12,43,000
Losses		20,120





Ans 4(a)

Working Note



Step 1



Joint Cost (Total)

Material J  $9000 \times 15 = 1,35,000$   
 K  $9000 \times 9 = 81,000$   
 L  $4500 \times 7 = 31,500$   
2,47,500

Variable Cost

R ~~42000~~  $22500 \times 5 = 1,12,500$   
 S  $20,250 \times 4.5 = 91,125$   
 T  $18,225 \times 3.4 = 61,965$   
2,65,590

Step 2



Fixed

R = 42000  
 S = 5000  
 T = 4800

Total Joint Cost = 5,44,290



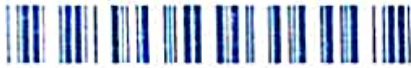
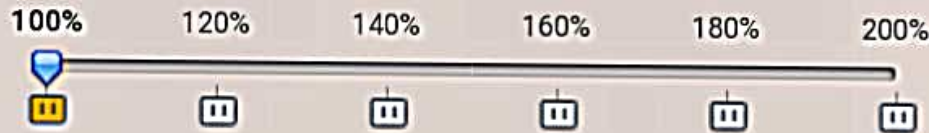


## Statement Apportionment of Joint Cost

Particulars	X	Z
Sale Value	8,74,800	1,09,300
X = $14580 \times 60$		
Z = $3645 \times 30$		
Less: Selling exp.	—	—
Ratio	8,74,800	1,09,300
Joint Cost	5,02,124	62,700

## Profitability of each

Particulars	X	Z
Sale Value	8,74,800	1,09,300
Less: Joint Cost	5,02,124	62,700
Profit	3,72,676	46,600



22

Ans 4(b)

4(b)

(i) Total Overheads = 33,75,000 Rs

Labour Hours = 7500 + 7200 + 7800 = 22500

$$\text{Overhead Rate} = \frac{\text{Estimated Overhead}}{\text{Labour hours}}$$

$$= \frac{33,75,000}{22,500} = 150 \text{ Rs}$$

(ii)

Particulars	Cost Driver	Total items	Cost Driver
Rent & Taxes	floor Area	15700	Rs 55 / sq ft
Electricity Expense	Power cost	5040	Rs 21.602 / unit
Direct Labour	Direct Lab	22500	Rs 8.5 / per hr
Repairs & Maint	Machine hrs	15,150	Rs 8.5 / per hr

Particulars	A	B	C
Rent & Taxes	S/S	S/S	S/S

Electr. Statement of overhead cost per unit

Rent & Taxes = S.S Rs for all departments

Electricity Expense = 31,7403 - A

33,856 - B

A = 8.1255

B = 5.9248

C = 1.2102



Indirect Labour =

A = 8.775

B = 9.36

C = 7.359

4b Step 2



0

Repairs & Maintenance

A = 1.02

B = 0.85

C = 0.6375

4b



1

Ans 4 (c)

Particulars	A	B
Selling Price	180	175
(-) Direct Material	55	60
Direct Labour	35	45
Variable factory OH	40	20
Contribution per unit	50	50
Key Limiting Factor	10	5
Contribution per Key Factor	5	10
Ranking	I	I

Step 1



2

Machine hours = 55,000 hours

B = 6000 units x 5 hrs = ~~24000~~ 30,000

A = 20000 units x 5 hrs = 100,000



24

Particulars	A <sup>(2500)</sup> <del>(6000)</del>	B (6000)
Sales Value	4,50,000	10,50,000
(-) Direct Material	1,37,500	3,60,000
Direct Labour	87,500	2,70,000
Variable Factory O/H's	1,00,000	1,20,000
Contribution	1,25,000	3,00,000

3 Total Contribution = 4,25,000  
 - Fixed Cost = 1,40,000  
 Profit = 285,000 Rs

[Ans 5 (a)]

4c 5  
 4  
 8 Actual Price = 12.5 Rs (AP)  
~~Standard~~ Qty = ~~2,00,000~~ (AQ)  
 25000

Material Price Variance = ~~12,500~~ (SP - AP) x A  
 $12,500 = (SP - 12.5) \times \frac{2,00,000}{25000}$   
~~+12,500~~

$24,87,500 = 2,00,000 SP$

$12.4375 = SP$  (Selling Price)

SP = 12 Rs

Material Cost Variance = ~~18~~ (SP x SA) - (AP x AQ)  
 -1800 = (12 ~~1375~~ x SA) - (12.5 ~~25000~~)

-1800 = 12 SA - 3,12,500  
 SA = 26,000

/ 28

100%

120%

140%

160%

180%


200%



25



$$\begin{aligned} \text{(i)} \quad \text{Material Usage Variance} &= (SQ - AQ) \\ &= (25,892 - 25,000) \\ &= 10,704 \text{ F} \end{aligned}$$



step2  0

$$\begin{aligned} \text{Labour cost Variance} &= (SH \times SR) - (AH \times AR) \\ &= 2,50,000 - 2,30,000 \\ &= 20,000 \text{ F} \end{aligned}$$

$$\begin{aligned} \text{Labour Efficiency Variance} &= (H - AH) \times SR \\ &= 0 \end{aligned}$$

$$\begin{aligned} \text{(ii)} \quad \text{Fixed Overhead cost Variance} &= F_1 - F_2 \\ &= 380 \end{aligned}$$

$$\begin{aligned} \text{Fixed O/H} \rightarrow \text{expenditure Variance} &= F_2 - F_1 \\ &= 19,120 - 19,500 = -380 \end{aligned}$$

step3  1 

$$\begin{aligned} \text{Fixed O/H Volume Variance} &= F_1 - F_2 \\ &= 19,120 - 19,120 = 0 \end{aligned}$$

SP = Selling Price  
SQ = Standard Qty





Working Note.

1)  $SH = 15 \text{ min for } 10 \text{ cm's}$   
 $SR = SO \text{ (Both)}$

$\frac{10}{0.2 \text{ Sk}} = \text{Goh} = 160$

~~AR = Skilled = 75~~  
~~Unskilled = 50~~

~~AR = 40~~  
~~= 50  $\frac{0.25 \times 2,000,000}{10}$~~

	SR	AR	SH	AM
75 Skilled	50	50	3000	3000
25 semi-skilled	50	40	2000	2000
			<u>5000</u>	<u>5000</u>

2) Lets assume

$F_2 = \text{Fixed Budgeted overheads for budgeted output}$

$F_2 = 19,120$

$F_1 = \text{Actual Budgeted O/Hs for actual output}$

$= 19,500$

$F_3 = \text{Fixed Budgeted overheads for Actual Output}$

$= \frac{19,120}{2,000,000} \times 2,000,000 = 19,120$



$MC = 20\%$

SP 120  
 VC 100  
 cost 20



Ans S(b)

S(b)	Particulars	Under / Over	Effect on cost
(i)	Factory overheads	84750	Increase in cost
(ii)	Adminstron O/Hs	3000	Increase in cost
(iii)	Selling O/Hs	(6500)	Decrease in cost
(iv)	Opening stock	(5000)	Decrease in cost
(v)	Closing stock	3500	Increase in cost

step 1  4.5

Here increase & decrease is written in of cost profit from financial

5b  4.5

Ans S(c)

High employee turnover means the amount number of employees leaving the ent. The time of their training of men and recruitment cost, advertisement will increase the non-productive of working.

step 1  1

Hence enterprise would unable to produce in such time. Therefore less unit produce, which increases the cost of production. Hence the eff.

5c  1

of the enterprise become low well as a high cost is incurred men recruitment of employees which affect the cost of production.