

SOLUTION COST AND MANAGEMENT NOV 2010

(a)

(A) The Cost Accountant provides financial information for stock valuation purposes and also presents relevant information to management for decision-making and planning and cost control purposes. For example, the cost accountant provides information on the costs and revenue of alternative courses of action to assist management in selecting the one which will maximise future cash flow.

By coordinating plans together in the form of budgets and comparing actual performance with plans, the cost accountant can pinpoint those activities which are not proceeding according to plan.

- (B)
- (i) Direct costs are those costs which can be traced to a cost objective. If the cost objective is a sales territory the fixed salaries of salesmen will be direct cost. Therefore the statement is incorrect.
 - (ii) This statement is correct because sunk costs are costs that have been created by a decision made in the past and that cannot be changed by any decision that will be made in the future.
 - (iii) Whether a cost is controllable depends on the level of authority and span being considered. For example, a department foreman may have no control over the number of supervisors employed in his department but this decision may be made by his superior. In a long run such costs are controllable.

(b)

Schedule of Annual Mileage Costs

	5000 km GHS	10,000 km GHS	15,000 km GHS	30,000 km GHS
Variable cost:				
Spares	100	200	300	600
Patrol	<u>380</u>	<u>760</u>	<u>1,140</u>	<u>2,280</u>
(a) Total Variable Cost	<u>480</u>	<u>960</u>	<u>1,440</u>	<u>2,880</u>
Variable cost per km	0.096	0.096	0.096	0.096
Fixed cost:				
Depreciation	2,000	2,000	2,000	2,000
Maintenance	120	120	120	120
Vehicle licence	80	80	80	80
Insurance	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>
(b) Total Fixed Cost	<u>2,350</u>	<u>2,350</u>	<u>2,350</u>	<u>2,350</u>
Total cost (a + b)	<u>2,830</u>	<u>3,310</u>	<u>3,790</u>	<u>5,230</u>

Workings

$$\text{Depreciation} = \frac{5,500 - 1,500}{2 \text{ yrs}} = \text{GHS}2,000$$

SOLUTION 2

- (a) Let x represent the Maintenance Department Cost and y the Canteen Department

$$x = 4,200 + .15y \dots\dots (1)$$

$$y = 3,600 + .10x \dots\dots (2)$$

$$x - .15y = 4,200 \dots\dots (3)$$

$$-.10x + y = 3,600 \dots\dots (4)$$

Eliminate x by multiplying equation 4 by 10 and add equation 3 and 4

$$x - .15y = 4,200 \dots\dots (5)$$

$$-x + 10y = 36,000 \dots\dots (6)$$

$$9.85y = 40,200$$

$$y = 4,081$$

Substitute y in equation 5

$$x - .15(4,081) = 4,200$$

$$x - 612.15 = 4,200$$

$$x = \underline{\underline{4,812}}$$

	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>
Bal b/d	6,200	5,000	4,800	6,500
Maintenance (4,812)	722	1,203	962	1,444
Canteen	<u>816</u>	<u>816</u>	<u>1,428</u>	<u>408</u>
	<u>7,738</u>	<u>7,019</u>	<u>7,190</u>	<u>8,352</u>

Workings:

	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>
M	.15 x 4,812	.25 x 4,812	.20 x 4,812	.30 x 4,812
C	.20 x 4,081	.20 x 4,081	.35 x 4,081	.10 x 4,081

Repeated Distribution Method

	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>Maintenance</u>	<u>Canteen</u>
b/d	6,200	5,000	4,800	6,500	4,200	3,600
M	630	1,050	840	1,260	-	<u>420</u> 4,020
C	804	804	1,407	402	603	-
M	90.45	150.74	120.6	180.9	-	603
C	12.06	12.06	21.11	6.03	9.05	-
M	1.36	2.26	1.81	2.72	-	.91
C	<u>.18</u>	<u>.18</u>	<u>.46</u>	<u>.09</u>	-	-
	<u>7,738.00</u>	<u>7,019.00</u>	<u>7,191.00</u>	<u>8,352.00</u>		

- (b) Over absorbed Overheads: - This is when the total overheads added to the work done exceed the actual overhead paid. Cost of goods would have been overstated and gross profit understated until it is adjusted.

Under Absorption: is where overheads added is less than actual paid. Costs of goods are understated and higher profits reported until it is adjusted.

- (c) Pre-determined Overheads Absorption Rate
 Advantage: It helps in timely determination of cost of goods produced.
 Goods produced can be invoiced before actual overheads are paid.

Disadvantage: Cost may not be accurate

SOLUTION 3

- (a) (i) Total contribution = 1,100,000 - 837,000 = 263,000
 Contribution Margin Ratio = $\frac{263,000}{1,100,000} \times 100$
 = 23.9%
- (ii) Contribution per occupants days = $\frac{263,000}{24,000}$ = GHS10.96
 Break-even point (occupant days) = $\frac{FC}{\text{Contr/Int}}$
 = $\frac{265,000}{10.96}$
 = 24,178.83 days
 Break-even (occupant charges) = $\frac{265,000}{0.239}$
 = GHS1,108,786.61
- (iii) Margin of safety: = $\frac{\text{Occupant days (full capacity)} - \text{Break-even (in occupant days)}}{\text{Occupant days (full capacity)}}$

$$\begin{aligned} \text{Occupant days (full capacity)} &= 365 \text{ days} \times 100/\text{days} = \underline{36,500 \text{ days}} \\ \therefore \text{Margin of safety} &= \frac{26,500 - 24,178.83}{26,500} \\ &= \underline{8.8\%} \end{aligned}$$

$$\begin{aligned} \text{(iv) Revised contribution} &= 1,100,000 - 863,000 = 237,000 \\ \text{Revised contribution per occupant days} &= \frac{237,000}{24,000} \\ &= \underline{\text{GHS}9.9} \end{aligned}$$

$$\begin{aligned} \text{Revised Break point (occupant days)} &= \frac{265,000}{9.9} \\ &= \underline{26,767.66 \text{ days}} \end{aligned}$$

$$\begin{aligned} \text{(v) Fixed Cost} &= 145,000 + 140,000 = 285,000 \\ \text{Revised Break-even point (occupant days)} &= \frac{285,000}{10.96} \\ &= \underline{26003.65 \text{ days}} \end{aligned}$$

- (b)
1. To provide a formal basis for assessing performance and efficiency.
 2. To control costs by establishing standards and analysing variances.
 3. To assist in setting budgets.
 4. To motivate staff and management.
 5. To provide a basis for estimating.
 6. To provide guidance on possible ways of improving performance.

SOLUTION 4

(i) Debtors Collection Schedule

	Sept	Oct	Nov	Dec
Sales	6,000	6,500	6,500	7,000
SP	<u>10</u>	<u>10</u>	<u>9.5</u>	<u>9.5</u>
Sales Rev.	<u>60,000</u>	<u>65,000</u>	<u>61,750</u>	<u>66,500</u>

Receipts

July	9,000			
August	27,000	8,100		
September	12,000	36,000	10,800	
October		13,000	39,000	11,700
November			12,350	37,050
December				<u>13,300</u>
	<u>48,000</u>	<u>57,100</u>	<u>62,150</u>	<u>62,050</u>

Note – Bad debt is 2% so third instalment is 18%

$$\begin{aligned}
 \text{- Total sales in July} &= \frac{10,000}{.2} = 50,000 \\
 \text{Total sales in August} &= \frac{36,000}{.8} = 45,000
 \end{aligned}$$

(ii) Payment for Purchases

	<u>Sept</u>	<u>Oct</u>	<u>Nov.</u>	<u>Dec.</u>
Purchase (unit)	7,000	7,000	7,200	6,500
C.P.	<u>6</u>	<u>6</u>	<u>6</u>	<u>6</u>
	42,000	42,000	43,200	39,000
Payments	20,000	42,000	42,000	43,200

Expenses 12% of Sales

	Sept	Oct	Nov	Dec
	7,200	7,800	7,410	7,980

Cash Budget

	Sept	Oct	Nov	Dec
Receipts	48,000	57,100	62,150	62,050
<u>Payments:</u>				
Purchases	20,000	42,000	42,000	43,200
Expenses	7,200	7,800	7,410	7,980
Delivery van	-	10,800	-	-
Drawings	<u>2,000</u>	<u>2,000</u>	<u>2,000</u>	<u>2,000</u>
	<u>29,200</u>	<u>62,600</u>	<u>51,410</u>	<u>53,180</u>
NCF	18,800	(5,500)	10,740	8,870
Bal b/d	<u>7,000</u>	<u>25,800</u>	<u>20,300</u>	<u>31,040</u>
Bal c/d	<u>25,800</u>	<u>20,300</u>	<u>31,040</u>	<u>39,910</u>

(b) Cash is an asset that does not generate revenue when kept idle. The closing balances per the budget can be invested short term to earn some income.

- Free cash can also be reinvested in the operations for expansion.

SOLUTION 5

1.

(a) Actual hours worked

$$\text{Standard Rate} = 152,000 \div 80,000 \text{ hrs} = 1.90$$

$$\text{Rate Variance} = \underline{0.20}$$

$$\text{Actual Rate} = 2.10$$

$$\text{Actual hours worked} = 165,000 \div 2.10/\text{hr} = \underline{\underline{78,570 \text{ hrs}}}$$

(b) Direct Materials Purchased and cost

$$\text{Standard Cost Per kg} = 0.75$$

$$\text{Direct Materials Usage Variance} = \text{GHS}1,500$$

$$\therefore \text{Usage Variance in kgs} = 1,500 \div 0.75 = 2,000 \text{ kg}$$

$$38,000 \text{ Units should use } (38,000 \times 4) = 152,000 \text{ kg}$$

$$\text{But } 38,000 \text{ units did use } 152,000 + 2,000 = 154,000 \text{ kg}$$

$$\text{Add increase in raw materials stock} = \underline{\underline{26,000 \text{ kg}}}$$

$$\therefore \text{Raw Materials Purchased} = \underline{\underline{180,000 \text{ kgs}}}$$

$$\text{Actual cost} = (75\text{p} - 5\text{p}) 180,000 \text{ kg} = \underline{\underline{\text{GHS}126,000}}$$

(c) Director materials Used above Standard Allowed

$$180,000 \text{ kg} - 154,000 \text{ kgs} = \underline{\underline{26,000 \text{ kgs}}}$$

(d) Standard Hrs Allowed for the Production Achieved

$$\text{Labour Efficiency Variance} = \text{VOEff.V}$$

$$\text{Variable Overheads Rate Per Hour} = \text{GHS}96,000 \div 80,000 = \text{GHS}1.20$$

$$38,000 \text{ Units did take (a above)} = 78,570$$

$$\text{Efficiency Variance } (2,400 \div 1.2) = \underline{\underline{2,000}}$$

$$38,000 \text{ Units should take} = \underline{\underline{76,570 \text{ Hrs}}}$$

(e) Actual Fixed production Overheads incurred and Absorbed

$$\text{Budgeted fixed production Overheads} = 160,000$$

$$\text{Fixed Production O/d expense variance} = \underline{\underline{3,000 \text{ F}}}$$

$$\therefore \text{Fixed Overheads Incurred} = \underline{\underline{\text{GHS}157,000}}$$

$$\text{Absorption Rate Per Hour} = 160,000 \div 80,000 \text{ hrs}$$

$$= \text{GHS}2/\text{hr}$$

$$\therefore \text{Absorbed Overheads} = \text{Standard Hours} \times \text{Rate/hour}$$

$$= 76,570 \times \text{GHS}2/\text{hour} = \text{GHS}153,140$$

(f) i. Variable production Overheads Expenditure Variance

$$\text{Total Variance Production Overhead} = 2,200 \text{ F}$$

$$\text{Efficiency Variance} = \underline{\underline{2,400 \text{ A}}}$$

$$\therefore \text{Expenditure Variance} = \underline{\underline{4,600 \text{ F}}}$$

ii.	Fixed Production Overhead Capacity Variance		
	Budgeted Hours	=	80,000
	Actual Hours worked	=	<u>78,000</u>
	Capacity		2,000 hours (A) x GHS2/hrs
		=	<u>4,000 A</u>
iii.	Fixed production Overhead Efficiency Variance		
	Fixed production Overhead Efficiency	=	2,000 hrs x 2 = <u>4,000 A</u>

2. Profits of Standard Costing

- Performance measurement
- Recovery of labour and overheads and what to be charged into stock
- Basis of control for buying, usage and efficient work levels
- Creates atmosphere of cost-consciousness
- Provides recognisable basis for budgeting, forecasting and planning
- Realistic targets motivates staff
- Management can re-appraise activities to ascertain if they are being done in the most cost effective and efficient manner.