# Answers

Section A

**1 A**

**2 D** $50,000 – $40,000 + ($500,000 ÷ 1·25) = $410,000

**3 A**

**4 D**

**5 D**

**6 C** (5,000 x $12 x 20 ÷ 120) + 8,000 = $18,000

**7 C** $57,200 – (5,200 x $50,000 ÷ 5,000 units) = $5,200 favourable

**8 A** (5,200 units – 5,000 units) x $20,000 ÷ 5,000 units = $800 favourable

**9 A**

**10 B**

Section B

**1 (a)** **Marginal Costing profit reconciliation statement**

**May 2010**

| | | | $ | |
|---|---|---|---|---|
| Budgeted Profit | | | 14,500 | |
| *Add*: budgeted fixed costs | | | 25,000 | |
| Budgeted contribution | | | 39,500 | |
| Sales volume contribution variance | | | 3,950 | adv |
| Standard contribution for actual sales volume | | | 35,550 | |
| Sales price variance | | | 4,500 | fav |
| | | | 40,050 | |
| Variable cost variances | | | | |
| | **Fav** | **Adv** | | |
| | **$** | **$** | | |
| Direct material price | | 270 | | |
| Direct material usage | | 180 | | |
| Direct labour rate | 1,100 | | | |
| Direct labour efficiency | | 200 | | |
| Variable overhead expenditure | | 750 | | |
| Variable overhead efficiency | | 600 | | |
| | 1,100 | 2,000 | 900 | adv |
| Actual contribution | | | 39,150 | |
| Budgeted fixed costs | | 25,000 | | |
| Fixed overhead expenditure variance | | 1,350 | fav | |
| Actual fixed costs | | | 23,650 | |
| Actual profit | | | 15,500 | |

**(b) Variance investigation**

Several factors should be considered before deciding whether to investigate a variance.

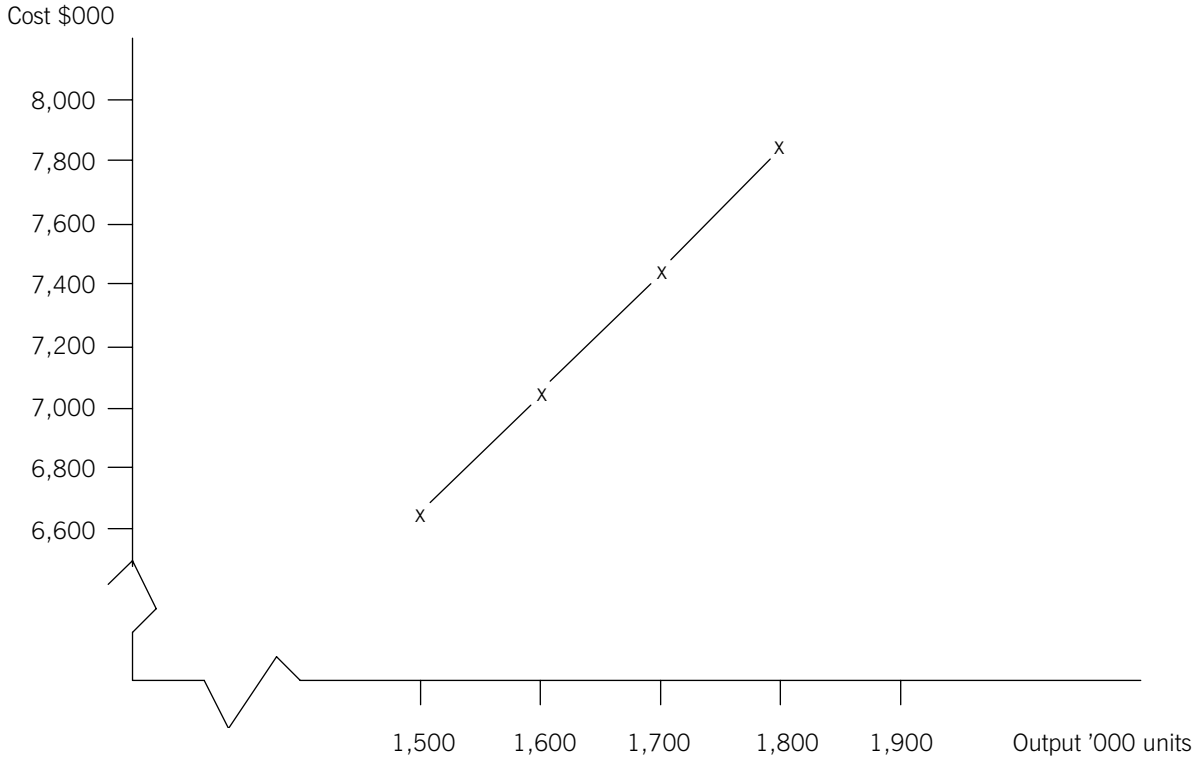
1. Reliability of the figures. Firstly we need to be certain that the figures are accurate. Mistakes in calculating budget figures or in recording actual costs and revenues could lead to variances being reported where no problem has actually occurred.
2. Materiality. The size of the variance might indicate the scale of the problem and the potential benefits from its correction.
3. Possible interdependence of variances. Sometimes a variance in one area will be related to a variance in another. For example, a favourable raw material price variance from buying lower grade material may cause an adverse labour variance because of difficulties in working the lower grade material. These two variances would need to be considered jointly before making a decision to investigate.
4. The inherent variability of the cost or revenue. Some costs are by nature quite volatile (for example oil prices) and price variances would not be surprising. Other costs such as labour are far more stable and even a small rate variance may indicate a problem.
5. Adverse or favourable. Adverse variances tend to attract most attention as they indicate problems; however, there is an argument for investigating favourable variances so managers can learn from their successes.
6. Trends in variances. One adverse variance may be caused by a random event. A series of increasingly adverse variances may indicate that the process is going out of control.
7. Controllability/probability of being able to correct. If a cost or revenue is outside manager's control (e.g. world market price of a raw material) then there is little point in investigating its cause.
8. Costs and benefits of correction. If the cost of correcting the problem is likely to be higher than the benefit then there is little point in investigating.

**(Note: Only four factors were required.)**

**2 (a)** Total Costs in 2010 price levels

| Year | | Total Cost |
|---|---|---|
| 2007 | $12,450,000 x 80 ÷ 150 | 6,640,000 |
| 2008 | $15,840,000 x 80 ÷ 180 | 7,040,000 |
| 2009 | $6,510,000 x 80 ÷ 70 | 7,440,000 |
| 2010 | $7,840,000 | 7,840,000 |

**(b)** Scatter graph




**(c)** High low technique

$$\text{Variable cost per unit} = \frac{\text{Change in total cost}}{\text{Change in volume}} = \frac{(\$7,840,000 - \$6,640,000)}{(1,800,000 \text{ units} - 1,500,000 \text{ units})}$$

$$= \frac{\$1,200,000}{300,000 \text{ units}} = \$4 \text{ per unit}$$

Fixed cost
Total cost = fixed cost + variable cost

At 1,800,000 units
$7,840,000 = fixed cost + (1,800,000 units x $4)
Fixed costs = $640,000 per annum

**(d)** 2011 Cost forecast

Cost forecast in 2010 prices
Total cost = $640,000 + ($4 x output)
= $640,000 + ($4 x 2,000,000 units)
= $8,640,000
Indexed to 2011 price levels
$8,640,000 x 95 ÷ 80 = $10,260,000

**(e)** Three trends revealed by the diagram

- Total sales have increased over the three years
- Sales in market 1 have grown very rapidly
- Sales in market 2 are static
- Sales in market 3 are falling

**(only three trends were required)**

**3 (a) Skilled labour budget**

| | |
|---|---|
| Basic hours (20 workers x 40 hours per week x 48 weeks per year) | 38,400 hours |
| Overtime hours (20 workers x 48 weeks per year x 8 hours) | 7,680 hours |
| Total hours | 46,080 hours |

| | $ |
|---|---|
| Basic pay (46,080 hours x $25 per hour) | 1,152,000 |
| Overtime premium (7,680 hours x $25 per hour x 50%) | 96,000 |
| | $1,248,000 |

**(b) Budgets year ending 31 December 2011**

**(i) Production budget**

| | |
|---|---|
| Production (46,080 hours ÷ 2 skilled hours per unit) | 23,040 units |

**(ii) Unskilled labour budget**

| | |
|---|---|
| Basic hours (23,040 units x 4 hours per unit) | 92,160 hours |
| Basic pay (92,160 hours x $15 per hour) | $1,382,400 |

**(iii) Direct material**

| | |
|---|---|
| Material usage (23,040 units x 6 kg per unit)) | 138,240 kg |
| Material cost (138,240 kg x $2 per unit) | $276,480 |

**(iv) Sales budget**

| | |
|---|---|
| Units (from above) | 23,040 units |
| Revenue (23,040 units x $250 per unit) | $5,760,000 |

**(c) Income statement**

| | $ |
|---|---|
| Sales revenue (from (iv) above) | 5,760,000 |
| Direct labour | |
| Skilled (from (a) above) | 1,248,000 |
| Unskilled (from (ii) above) | 1,382,400 |
| Direct material (from (iii) above) | 276,480 |
| Variable overhead (w1) | 691,200 |
| Fixed overhead absorbed (w2) | 552,960 |
| Under absorbed fixed overhead (w3) | 47,040 |
| Profit | $1,561,920 |

Working 1 46,080 skilled hours ÷ 2 hours x 6 hours x $5 per hour
Working 2 46,080 skilled hours ÷ 2 hours x 6 hours x $4 per hour
Working 3 (150,000 hours – 138,240 hours) x $4 per hour = $47,040

**(d) Overcoming labour shortages.**

Labour shortages could be overcome by

- Recruiting more skilled labour, possibly by offering higher wages
- Training more skilled workers
- Investing in equipment to improve the productivity of skilled employees
- Using unskilled labour to perform the simpler elements of the skilled labour's work
- Subcontracting (outsourcing) some of the work to other manufacturers.

**(only two methods were required)**

**4 (a) (i) A participative approach to budgeting**

A participative approach to budgeting (sometimes known as a bottom up approach) gives all budget holders an opportunity to participate in the setting of their own budgets. This is in contrast to a non-participative approach (a top down approach) which involves preparation of budgets by senior managers without giving the ultimate budget holder an opportunity to participate in the budgeting process.

**Advantages**

The advantages of a participative approach are:

- Budgets are based upon information from managers most familiar with the areas concerned, and are therefore likely to be more realistic.
- Budget holders are likely to have more commitment to budgets they have been involved in designing.

Because of the above, motivation and morale should improve.

**Disadvantages**

However, there are some disadvantages associated with participation

- Senior management may lose some control of the business caused by delegating decision-making to local managers.
- Junior managers may be less familiar with the company's strategic plan and therefore may make decisions that are not in line with company strategy.
- Junior managers may take the opportunity to build 'slack' (padding) into their budgets, resulting in reduced profitability.
- Depending upon the relative abilities and experience of senior and junior managers participation could be argued to produce poor quality decisions.
- It could slow down budget preparation.

**(ii) The effect of targets upon motivation**

Motivation is the drive or urge to achieve an end result. The targets included in budgets have an effect on motivation.

If a budget or target is set at a too easy a level it is unlikely to encourage budget holders to achieve their full potential. Although they may achieve the target set, this may not be their best possible performance.

On the other hand a budget that is set at a very challenging level may be seen as too difficult and dissuade budget holders from trying at all, resulting in very poor actual performance.

Ideally the targets included in budgets should fall between the two extremes. They should be challenging enough to encourage budget holders to work hard in order to achieve them, whilst not being seen as too difficult, so as to avoid demotivation.

Unfortunately this 'right' level of difficulty is hard to define and is likely to vary between individuals.

**(iii) Goal congruence**

Goal congruence is the situation when individuals or groups take actions that are in their own self-interest as well as in the best interests of the organisation.

**(iv) Goal incongruence and dysfunctional behaviour**

When goal congruence is lacking groups or individuals may make decisions that although are in their own best interests, are contrary to the best interests of the organisation. Such decisions are usually referred to as dysfunctional decisions.

**(b) Potential problems with the new managing director's approach**

The approach taken by the managing director has the following potential problems

(i) The new budgeting system is a top down (non-participative) approach. This could result in the company failing to utilise the experience of its hotel general managers. This is particularly important given the geographical diversity of the business. It may also lead to a reduction in motivation and a lack of commitment amongst managers who are used to setting their own budgets.

(ii) The large increases in profitability required by the budget may be regarded by budget holders as impossible to achieve resulting in a lack of motivation and a consequent reduction in profit.

(iii) Relating hotel managers' pay to cost reduction programmes may result in dysfunctional decisions. Managers could increase their own salaries by reducing restaurant costs. These cost reductions could lead to a decrease in quality, causing both customer numbers and profitability to decrease.

| | | | | Marks |
|---|---|---|---|---|
| **1** | **(a)** | Marks as per requirement | | 12 |
| | **(b)** | 2 marks per factor | | 8 |
| | | | | **20** |
| **2** | **(a)** | 1 mark per figure | | 4 |
| | **(b)** | 1 mark per labelled axis | 2 | |
| | | correctly plotted points | 2 | |
| | | | | 4 |
| | **(c)** | variable cost per unit | 2 | |
| | | fixed cost | 2 | |
| | | | | 4 |
| | **(d)** | indexing | 1 | |
| | | forecasting | 1 | |
| | | | | 2 |
| | **(e)** | 2 marks per identified trend, max | | 6 |
| | | | | **20** |
| **3** | **(a)** | basic hours | 1 | |
| | | overtime hours | 1 | |
| | | basic pay | 1 | |
| | | overtime premium | 1 | |
| | | | | 4 |
| | **(b)** | **(i)** production units | 1 | |
| | | **(ii)** one each for kg & $ | 2 | |
| | | **(iii)** one each for hours & $ | 2 | |
| | | **(iv)** one each units & $ | 2 | |
| | | | | 7 |
| | **(c)** | 0·5 each for sales, skilled labour, | | |
| | | unskilled labour and direct materials | 2 | |
| | | variable overhead | 2 | |
| | | absorbed fixed overhead | 2 | |
| | | underabsorbed fixed overhead | 1 | |
| | | | | 7 |
| | **(d)** | one mark per sensible suggestion, max | | 2 |
| | | | | **20** |

| | | | | | Marks |
|---|---|---|---|---|---|
| **4** | **(a)** | **(i)** | definition | 2 | |
| | | | advs and disadvs, 1 mark each max | 4 | |
| | | **(ii)** | too easy | 2 | |
| | | | too hard | 2 | |
| | | **(iii)** | goal congruence | 2 | |
| | | | dysfunctional decisions | 2 | |
| | | | | | 14 |
| | **(b)** | 2 marks per justified point | | | 6 |
| | | | | | **20** |