

Cost Accounting Level 3



International
Qualifications from EDI

Model Answers

Series 2 2009 (3017M) Malaysia

Cost Accounting Level 3 (Malaysia)

Series 2 2009

How to use this booklet

Model Answers have been developed by EDI to offer additional information and guidance to Centres, teachers and candidates as they prepare for LCCI International Qualifications. The contents of this booklet are divided into 3 elements:

- (1) Questions – reproduced from the printed examination paper
- (2) Model Answers – summary of the main points that the Chief Examiner expected to see in the answers to each question in the examination paper, plus a fully worked example or sample answer (where applicable)
- (3) Helpful Hints – where appropriate, additional guidance relating to individual questions or to examination technique

Teachers and candidates should find this booklet an invaluable teaching tool and an aid to success.

EDI provides Model Answers to help candidates gain a general understanding of the standard required. The general standard of model answers is one that would achieve a Distinction grade. EDI accepts that candidates may offer other answers that could be equally valid.

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QUESTION 1

Jay Jay Limited maintains stock record cards that clearly show the physical stock, allocated stock, amount on order and free stock of each item for their product GN 2812.

The re-order level for this item is 1,500 kg, and the re-order quantity is 1,250 kg.

The stock record card for stock item GN 2812, recorded the following information and balances at the beginning of month two:

| | |
|-----------------|----------|
| Physical stock | 950 kg |
| Allocated stock | 550 kg |
| Amount on order | 1,250 kg |

The following transactions relating to stock item GN 2812 took place during month two:

Date:

- 4 240 kg allocated to job 336
- 5 105 kg issued to job 328 (previously allocated)
- 9 500 kg issued to job 354 (not previously allocated)
- 12 Materials on order at the end of month 1 received
- 17 120 kg allocated to job 358
- 22 125 kg returned to supplier as damaged. Supplier has agreed to replace
- 23 50 kg of surplus material from job 328 returned into stock
- 24 950 kg of material allocated to Job 377
- 27 Supplier replaced materials returned on the 22nd of the month
- 28 250 kg issued to Job 336 (240 kg previously allocated and 10kg from free stock)

REQUIRED

(a) Write up the detailed stock record card for stock item GN 2812 for month two. (14 marks)

(b) Briefly explain TWO of the principles and ONE implication of operating a Just in Time (JIT) approach to stock management. (6 marks)

(Total 20 marks)

MODEL ANSWER TO QUESTION 1

(a) Stock Record Card: Item GN2812

| Date | Receipts kg | Issues kg | Stock In hand kg | Allocated stock kg | Stock on order kg | Free stock kg |
|------|----------------|--------------|------------------------|--------------------------|-------------------------|---------------------|
| 1 | | | 950 | 550 | 1,250 | 1,650 |
| 4 | | | 950 | 790 | 1,250 | 1,410 |
| 4 | | | 950 | 790 | 2,500 | 2,660 |
| 5 | | 105 | 845 | 685 | 2,500 | 2,660 |
| 9 | | 500 | 345 | 685 | 2,500 | 2,160 |
| 12 | 1,250 | | 1,595 | 685 | 1,250 | 2,160 |
| 17 | | | 1,595 | 805 | 1,250 | 2,040 |
| 22 | | 125 | 1,470 | 805 | 1,375 | 2,040 |
| 23 | 50 | | 1,520 | 805 | 1,375 | 2,090 |
| 24 | | | 1,520 | 1,755 | 1,375 | 1,140 |
| 24 | | | 1,520 | 1,755 | 2,625 | 2,390 |
| 27 | 125 | | 1,645 | 1,755 | 2,500 | 2,390 |
| 28 | | 250 | 1,395 | 1,515 | 2,500 | 2,380 |

(b) **Principles of a JIT system**

Stocks/materials are delivered just as they are needed for production.

Stock levels are kept to a minimum – there are no buffer stocks.

Implications

The manufacturer needs reliable suppliers who can supply quality products.

There is a danger of running out of stock required for production.

A JIT system is susceptible to supply chain problems.

Suppliers need to be flexible enough to react to immediate demands for their products.

QUESTION 2

Clement Walton Limited manufacture a single product.

The following budgeted information has been prepared for the next period:

| | RM per unit |
|--------------------|-------------|
| Selling price | 75.00 |
| Direct materials | 9.40 |
| Direct labour | 24.75 |
| Variable overheads | 10.35 |

Sales and production 14,000 units

Fixed overheads RM 162,870

The company is concerned about the quality and demand of its product. They are considering installing new machinery, which would reduce the direct labour costs by one-third but increase total fixed overheads by 50%. All other costs per unit and the selling price would remain unchanged.

REQUIRED

- (a) Calculate the break even point in units and sales revenue
- (i) Using the existing production method (2 marks)
 - (ii) If the new machinery was introduced. (4 marks)
- (b) Calculate the margin of safety as a % of the budgeted sales for both alternatives. (2 marks)
- (c) Plot both of the above options on **ONE profit/volume chart**, clearly labelling:
- (i) The break even points for both alternatives
 - (ii) The potential profit for each alternative at the maximum capacity. (8 marks)
- (d) Calculate the common level of sales (in units) which would produce the same level of profit for both of the above alternatives. (4 marks)

(Total 20 marks)

MODEL ANSWER TO QUESTION 2

- (a) (i) Selling price 75.00
Less Variable costs 44.50 (9.40 + 24.75 + 10.35)
Contribution **30.50**
- Fixed overheads **162,870 / 30.50 = 5,340 units x 75.00 = RM 400,500**
- (ii) Selling price 75.00
Less Variable costs 36.25 (9.40 + **16.50** + 10.35)
Contribution **38.75**
- Fixed overheads **244,305 / 38.75 = 6,305 units x 75.00 = RM 472,875**

(b) **Margin of safety**

$$14,000 - 5,340 = 8,660 / 14,000 = \mathbf{61.86\%}$$

$$14,000 - 6,305 = 7,695 / 14,000 = \mathbf{54.96\%}$$

(c) **See separate profit volume chart**

2 marks for correctly labeled axis and heading (½ mark each)

2 marks for the break even – correctly labeled

2 marks for each line – correctly labeled – 1 mark for each line and 1 mark for the labeling

(d) $38.75 - 30.50 = \mathbf{8.25}$

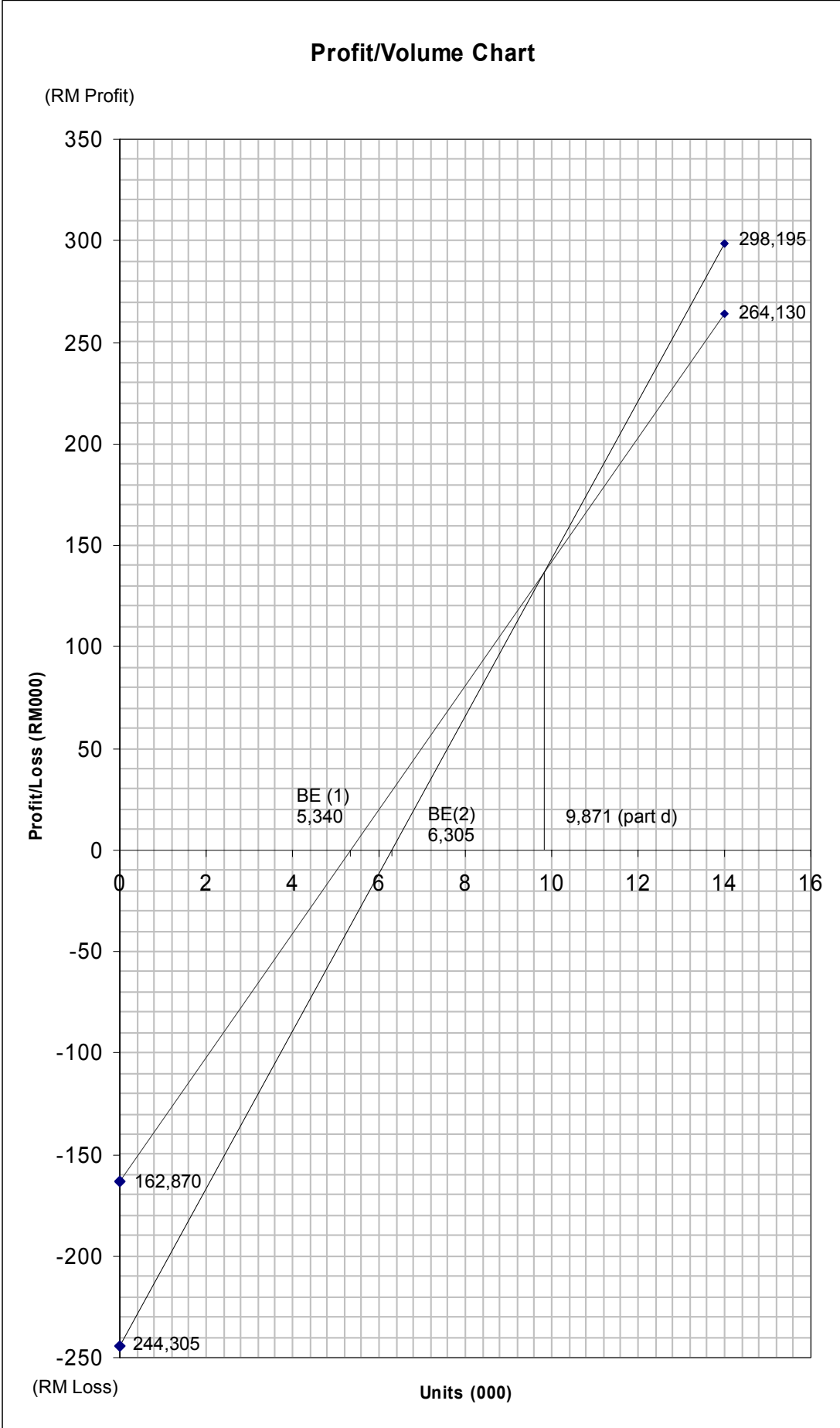
$$244,305 - 162,870 = \mathbf{81,435}$$

$$\mathbf{81,435 / 8.25 = 9,871 \text{ units}}$$

Check: $9,871 \times 38.75 = 382,501 - 244,305 = 138,196 \text{ profit}$

$$9,871 \times 30.50 = 301,065 - 162,870 = 138,196 \text{ profit (rounded)}$$

MODEL ANSWER TO QUESTION 2 (c) CONTINUED



MODEL ANSWER TO QUESTION 2 CONTINUED

Workings

(W1)

$$\begin{aligned} &14,000 \times 38.75 \\ &= 542,500 \\ &\quad (244,305) \\ &= \underline{298,195} \end{aligned}$$

(W2)

$$\begin{aligned} &14,000 \times 30.50 \\ &= 427,000 \\ &\quad (162,870) \\ &= \underline{264,130} \end{aligned}$$

QUESTION 3

Pederson Limited manufactures and sells a single product Exe, which uses two different raw materials in its production.

The current selling price of Exe is RM 75 per unit, which will increase by 10% from the beginning of month four.

The sales budget is forecast as follows:

| | Month One | Month Two | Month Three | Month Four | Month Five |
|---------------------|-----------|-----------|-------------|------------|------------|
| Product Exe (units) | 5,500 | 6,300 | 6,500 | 5,000 | 5,800 |

The following information is available relating to the production of each unit of product Exe:

| | |
|-------------------------|----------------------------|
| Material Hay | 2.5 kg @ RM 4 per kg |
| Material Bee | 3.5 kg @ RM 5 per kg |
| Skilled direct labour | 1.5 hours @ RM 9 per hour |
| Unskilled direct labour | 1.25 hours @ RM 6 per hour |

The firm anticipates a 10% increase in the cost of both materials and a 5% rise in direct labour costs, to be effective from the start of month three.

Opening stocks from the beginning of month one are expected to be as follows:

| | |
|--------------|-------------|
| Product Exe | 1,100 units |
| Material Hay | 7,075 kg |
| Material Bee | 9,905 kg |

The closing stock of product Exe at the end of each month should be equal to 20% of the following months sales.

The closing stock of both materials at the end of each month should be equal to 50% of the material usage for the following month.

REQUIRED

(a) Prepare the following for each of months One, Two, Three and Four:

- (i) Sales budget in RM (2 marks)
- (ii) Production budget in units. (4 marks)

(b) Prepare the following for each of months One, Two and Three:

- (i) Material Purchases budgets for both Hay and Bee in kg and RM (8 marks)
- (ii) The labour budgets in hours and RM for both types of labour. (6 marks)

(Total 20 marks)

MODEL ANSWER TO QUESTION 3**(a) (i) Sales budget**

| Units | Month One | Month Two | Month Three | Month Four |
|----------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Sales | 5,500 | 6,300 | 6,500 | 5,000 |
| Price per unit | <u>x RM 75</u> | <u>x RM 75</u> | <u>x RM 75</u> | <u>x RM 82.50</u> |
| Sales value RM | <u>412,500</u> | <u>472,500</u> | <u>487,500</u> | <u>412,500</u> |

(ii) Production budget

| Units | Month One | Month Two | Month Three | Month Four |
|--------------------|---------------------|---------------------|---------------------|---------------------|
| Sales | 5,500 | 6,300 | 6,500 | 5,000 |
| Less opening stock | (1,100) | (1,260) | (1,300) | (1,000) |
| Plus closing stock | <u>1,260</u> | <u>1,300</u> | <u>1,000</u> | <u>1,160</u> |
| Production | <u>5,660</u> | <u>6,340</u> | <u>6,200</u> | <u>5,160</u> |

Closing stock for month 4 = 20% of 5,800 units (month 5 sales)

(b) (i) Material Purchases Budget (kg and total RM of raw material Hay):

| | Month One | Month Two | Month Three |
|-------------------------|----------------------|----------------------|----------------------|
| Required for production | 5,660 | 6,340 | 6,200 |
| x quantity per unit | <u>2.5</u> | <u>2.5</u> | <u>2.5</u> |
| Material usage kg | 14,150 | 15,850 | 15,500 |
| Less opening stock | (7,075) | (7,925) | (7,750) |
| Plus closing stock | <u>7,925</u> | <u>7,750</u> | <u>6,450</u> |
| Purchases (kg) | <u>15,000</u> | <u>15,675</u> | <u>14,200</u> |
| x price per kg RM | <u>4</u> | <u>4</u> | <u>4.40</u> |
| Purchases (RM) | <u>60,000</u> | <u>62,700</u> | <u>62,480</u> |

Closing Stock for month three = 5,160 units x 2.5 x 50% = 6,450

Material Purchases Budget (kgs and total RM of raw material Bee):

| | Month One | Month Two | Month Three |
|-------------------------|-----------------------|-----------------------|-----------------------|
| Required for production | 5,660 | 6,340 | 6,200 |
| x quantity per unit | <u>3.5</u> | <u>3.5</u> | <u>3.5</u> |
| Material usage kgs | 19,810 | 22,190 | 21,700 |
| Less opening stock | (9,905) | (11,095) | (10,850) |
| Plus closing stock | <u>11,095</u> | <u>10,850</u> | <u>9,030</u> |
| Purchases (kgs) | <u>21,000</u> | <u>21,945</u> | <u>19,880</u> |
| x price per kg | <u>5</u> | <u>5</u> | <u>5.50</u> |
| Purchases (RM) | <u>105,000</u> | <u>109,725</u> | <u>109,340</u> |

Closing Stock for month three = 5,160 units x 3.5 x 50% = 9,030

MODEL ANSWER TO QUESTION 3 CONTINUED

(ii) **Skilled labour budget**

| | Month One | Month Two | Month Three |
|---------------|------------------|------------------|--------------------|
| Production | 5,660 | 6,340 | 6,200 |
| x hours | <u>1.5</u> | <u>1.5</u> | <u>1.5</u> |
| Total hours | 8,490 | 9,510 | 9,300 |
| x rate RM | <u>9.00</u> | <u>9.00</u> | <u>9.45</u> |
| Total cost RM | 76,410 | 85,590 | 87,885 |

Unskilled labour budget

| | Month One | Month Two | Month Three |
|---------------|------------------|------------------|--------------------|
| Production | 5,660 | 6,340 | 6,200 |
| x hours | <u>1.25</u> | <u>1.25</u> | <u>1.25</u> |
| Total hours | 7,075 | 7,925 | 7,750 |
| x rate RM | <u>6.00</u> | <u>6.00</u> | <u>6.3</u> |
| Total cost RM | 42,450 | 47,550 | 48,825 |

QUESTION 4

Doyle Ricketts Ltd uses a process system to produce its three main products A, B and C.

As a result of this process, a by-product D, is also obtained.

Information regarding this process for the month of May is as follows:

Input

Direct materials 9,000 kg at RM 8.50 per kg

Direct labour 8,250 hrs at RM 7.60 per hour

Overheads are absorbed at RM 11.40 per direct labour hour.

Normal process losses (scrap) are 10% of input and are disposed of at a cost of RM 1.00 per kg.

Output

| Product | Quantity | Selling Price per kg |
|--------------|----------|----------------------|
| Product A | 3,750 kg | RM 39.00 |
| Product B | 2,250 kg | RM 48.00 |
| Product C | 1,500 kg | RM 66.00 |
| By-product D | 600 kg | RM 4.00 |

Further processing:

In order to be able sell product C, a separate finishing process is necessary. A further one hour of direct labour per kg of material is required for this process.

REQUIRED

(a) For the month of May, prepare the process accounts using **each** of the following methods of apportioning joint costs to products:

(i) Net sales value (10 marks)

(ii) Physical quantity/units. (6 marks)

(b) Explain the different cost accounting treatments of 'joint products' and 'by-products' (4 marks)

(Total 20 marks)

MODEL ANSWER TO QUESTION 4

(a) (i) **Process account (net sales value basis)**

| | kg | RM | | kg | RM |
|-----------------|--------------|----------------|-------------|--------------|----------------|
| Material | 9,000 | 76,500 | Product A | 3,750 | 104,368 |
| Labour | | 62,700 | Product B | 2,250 | 77,072 |
| Overheads | | 94,050 | Product C | 1,500 | 50,310 |
| Scrap disposals | | 900 | Product D | 600 | 2,400 |
| | | | Normal loss | <u>900</u> | |
| | <u>9,000</u> | <u>234,150</u> | | <u>9,000</u> | <u>234,150</u> |

Net Sales Value

| | | | |
|-----------|----------------------|-------------|--------------------------|
| Product A | 3,750 x 39.00 | | RM 146,250 |
| Product B | 2,250 x 48.00 | | RM 108,000 |
| Product C | 1,500 x 66.00 | RM 99,000 | |
| | Less 1,500 x RM 7.60 | | |
| | 1,500 x RM 11.40 | (RM 28,500) | |
| | | | <u>RM 70,500</u> |
| | | | <u>RM 324,750</u> |

Joint Cost Apportionment

W1

Product A **231,750 / 324,750 x 146,250 = RM 104,368**

Product B **231,750 / 324,750 x 108,000 = RM 77,072**

Product C **231,750 / 324,750 x 70,500 = RM 50,310**

Workings:

$$234,150 - 2,400 = 231,750$$

(ii) **Process account (physical quantity basis)**

| | kg | RM | | kg | RM |
|-----------------|--------------|----------------|-------------|--------------|----------------|
| Material | 9,000 | 76,500 | Product A | 3,750 | 115,875 |
| Labour | | 62,700 | Product B | 2,250 | 69,525 |
| Overheads | | 94,050 | Product C | 1,500 | 46,350 |
| Scrap disposals | | 900 | Product D | 600 | 2,400 |
| | | | Normal loss | <u>900</u> | - |
| | <u>9,000</u> | <u>234,150</u> | | <u>9,000</u> | <u>234,150</u> |

Workings – joint cost apportionment

$$234,150 - 2,400 = \text{RM } 231,750$$

$$9,000 - 1,500 = \text{7,500 units}$$

Product A **231,750 / 7,500 x 3,750 = RM 115,875**

Product B **231,750 / 7,500 x 2,250 = RM 69,525**

Product C **231,750 / 7,500 x 1,500 = RM 46,350**

MODEL ANSWER TO QUESTION 4 CONTINUED

- (b) Each joint product is apportioned **a full share of the joint costs** because the products represent the **reason for the process**.

By products are **incidental to the process** – joint process costs are **reduced by any saleable value of the by products**.

QUESTION 5

Turner Pederson Limited manufactures a single product and the following standard costs apply:

| | RM per unit |
|--|--------------------|
| Direct materials 4 kg at RM 6 per kg | 24.00 |
| Direct labour 3.6 hours at RM 9 per hour | 32.40 |
| Variable production overheads at RM 3 per direct labour hour | 10.80 |
| Fixed production overheads at RM 4 per direct labour hour | 14.40 |

Fixed production overheads for the period were budgeted as RM 108,000

The actual costs for the period, when the actual production was 7,950 units were:

| | |
|-------------------------------------|---------------------------------|
| Direct materials purchased and used | 33,000 kg @ RM 5.80 per kg |
| Direct labour | 27,960 hours @ RM 9.30 per hour |
| Variable production overheads | RM 89,475 |
| Fixed production overheads | RM 104,400 |

REQUIRED

- (a) Calculate the budgeted production units for the period. (2 marks)
- (b) Calculate the following production cost variances for the period:
- (i) Direct material total
 - (ii) Direct labour total
 - (iii) Variable overhead total
 - (iv) Fixed overhead total (4 marks)
- (c) Using the variances above, prepare a statement reconciling the total standard and the total actual costs for the period. (6 marks)

Hughes Marney Limited makes a single product and uses a standard absorption costing system.

The production budgets for a period include the following:

| | |
|-------------|--------------------|
| Production | Direct labour |
| 9,000 units | 4.5 hours per unit |

During the period the actual results were:

| | |
|-------------|---------------------|
| Production | Direct labour hours |
| 9,300 units | 43,720 |

QUESTION 5 CONTINUED

REQUIRED

(d) Calculate for the period the following production ratios:

- (i) Efficiency
- (ii) Capacity
- (iii) Production volume (activity).

(8 marks)

(Total 20 marks)

MODEL ANSWER TO QUESTION 5

(a) **Budgeted production units** $108,000 / RM\ 14.40 = 7,500$ units

| | | | |
|---|--|----------------|-------------------|
| (b) (i) Direct material variance | | | |
| Actual price x actual usage (33,000 kg x RM 5.80) | | 191,400 | |
| Standard price x standard usage RM 6 x 4 kg x 7,950 | | <u>190,800</u> | 600 Adv |
| (ii) Direct labour variance | | | |
| Actual rate x actual hours (27,960 x RM 9.30) | | 260,028 | |
| Standard rate x standard hours RM 9 x 3.6 x 7,950 | | <u>257,580</u> | 2,448 Adv |
| (iii) Variable production overhead variance | | | |
| Actual overhead | | 89,475 | |
| Standard rate x standard hours RM 3 x 3.6 x 7,950 | | <u>85,860</u> | 3,615 Adv |
| (iv) Fixed production overhead variance | | | |
| Actual overhead | | 104,400 | |
| Actual units x Standard rate 7,950 x RM 14.40 | | <u>114,480</u> | 10,080 Fav |

| | | | |
|----------------------|----------------------|-----------------------|-----|
| (c) | | | |
| Reconciliation | | | |
| Standard cost | | 648,720 | |
| Materials | 600 | Adv | |
| Labour | 2,448 | Adv | |
| Variable overheads | 3,615 | Adv | |
| Fixed overheads | <u>10,080</u> | <u>Fav</u> | |
| | | <u>3,417</u> | Fav |
| Actual cost | | <u>645,303</u> | |
| Standard Cost | | | |
| Direct materials | (7,950 x 4 x RM 6) | 190,800 | |
| Direct labour | (7,950 x 3.6 x RM 9) | 257,580 | |
| Variable overheads | (7,950 x 3.6 x RM 3) | 85,860 | |
| Fixed overheads | (7,950 x 3.6 x RM 4) | <u>114,480</u> | |
| | = 7,950 X RM 81.60 | <u>648,720</u> | |
| Actual costs | | | |
| Direct materials | | 191,400 | |
| Direct labour | | 260,028 | |
| Variable overheads | | 89,475 | |
| Fixed overheads | | <u>104,400</u> | |
| | | <u>645,303</u> | |

MODEL ANSWER TO QUESTION 5 CONTINUED

(d) (i) **Production efficiency ratio**

$$\frac{\text{Standard direct labour hours of actual production}}{\text{Actual direct labour hours worked}} \times 100\%$$

$$= \frac{41,850 \text{ hrs}}{43,720 \text{ hrs}} \times 100\% = 95.72 \%$$

$$(41,850 = 9,300 \times 4.5)$$

(ii) **Production capacity ratio**

$$\frac{\text{Actual direct labour hours worked}}{\text{Budgeted direct labour hours}} \times 100\%$$

$$= \frac{43,720 \text{ hrs}}{40,500 \text{ hrs}} \times 100\% = 107.95 \%$$

$$(40,500 = 9,000 \times 4.5)$$

(iii) **Production volume (activity) ratio**

$$\frac{\text{Standard direct labour hours of actual production}}{\text{Budgeted direct labour hours}} \times 100\%$$

$$= \frac{41,850 \text{ hrs}}{40,500 \text{ hrs}} \times 100\% = 103.33 \%$$

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