

Question 8

80

| (a) | € | € | € per unit |
|----------------------------|---------------|----------------|---------------|
| Sales (14,000 units – 70%) | | 560,000 | 40.00 |
| Less Variable Costs | | | |
| Direct materials | 120,000 | | |
| Direct lab | 140,000 | | |
| Factory overhead | 30,000 | | |
| Administration overhead | <u>49,500</u> | <u>339,500</u> | <u>24.25</u> |
| Contribution | | 220,500 | 15.75 |
| Less Fixed Costs | | | |
| Factory overhead | 60,000 | | |
| Administration overhead | <u>62,500</u> | <u>122,500</u> | |
| Net Profit | | <u>98,000</u> | |

(i) **Break even point** $\frac{\text{Fixed Costs}}{\text{CPU}} = \frac{[5] 122,500}{[5] 15.75} = [3] 7,778 \text{ units}$

Margin of safety $\text{Sales} - \text{break even point} = [3] 14,000 - 7,778 [3] = [2] 6,222 \text{ units}$

(ii) **Profit from reduced selling price**

| | | | |
|---------------------|-------------------|----------------|-----|
| Sales | (20,000 x €38.00) | 760,000 | [3] |
| Less variable costs | (20,000 x €24.25) | 485,000 | [3] |
| – fixed costs | | <u>132,500</u> | [3] |
| Profit | | <u>142,500</u> | [2] |

(iii) **Number of Units that must be sold**

Let N be the no of units

| | | | | | | |
|---------------------|---|-------------|---|---------|---|--------------|
| Sales | = | V.C. | + | F.C. | + | Profit |
| 36N | = | 24.25N | + | 122,500 | + | [20% of 36N] |
| 36N – 24.25N – 7.2N | = | 122,500 | | | | |
| 4.55N [7] | = | 122,500 | | | | [4] |
| N | = | 26924 units | | | | [2] |

(iv) **The profit they would Make from S.P of €42**

| | | | |
|---------------------|-------------------------------|----------------|-----|
| Sales | [19,000 x €42] | 798,000 | [3] |
| Less Variable costs | [19,000 x (24.25 + 1 + 2.10)] | <u>519,650</u> | [5] |
| Contribution | | 278,350 | |
| Less Fixed costs | | <u>122,500</u> | [1] |
| Profit | | <u>155,850</u> | [2] |

(v) To calculate the break even point [2]
When necessary figures are not available – variable cost or selling price or units

(b)

| Production overheads | Units | Total Cost |
|-----------------------------|---------------|-------------------|
| | | € |
| High | 18,000 | 114,000 |
| Low | <u>10,000</u> | <u>66,000</u> |
| Difference | 8,000 | 48,000 |

The variable cost of 8,000 units is 48,000, therefore the variable cost per unit is € [3]

| | | | |
|--------------------------------|---------------|---------------|----------------|
| Total production overhead cost | 66,000 | 96,000 | 114,000 |
| Less variable costs | <u>60,000</u> | <u>90,000</u> | <u>108,000</u> |
| Therefore, Fixed cost | <u>6,000</u> | <u>6,000</u> | <u>6,000</u> |

| Other overhead costs | Units | Total Cost |
|-----------------------------|---------------|-------------------|
| | | € |
| High | 18,000 | 99,000 |
| Low | <u>10,000</u> | <u>57,000</u> |
| Difference | 8,000 | 42,000 |

The variable cost of 8,000 units is 40,000, therefore the variable cost per unit is €5.25 [3]

| | | | |
|----------------------------|---------------|---------------|---------------|
| | 10,000 | 15,000 | 18,000 |
| Total other overhead costs | 57,000 | 83,250 | 99,000 |
| Less variable costs | <u>52,500</u> | <u>78,750</u> | <u>94,500</u> |
| Therefore, Fixed cost | 4,500 | 4,500 | 4,500 |

Flexible Budget in Marginal Costing format

| | | | |
|--------------------------------------|-------------------|--|--------------------|
| Sales | | | 785,000 [1] |
| Less Variable Costs | | | |
| Direct Materials (19,000 x 14) | 266,000 [1] | | |
| Direct Labour (19,000 x 8) | 152,000 [1] | | |
| Production overheads (19,000 x 6) | 114,000 [1] | | |
| Other overhead costs (19,000 x 5.25) | <u>99,750 [1]</u> | | <u>631,750</u> |
| Contribution | | | [1] 153,250 |
| Less Fixed Costs | | | |
| Production overheads | 6,000 [1] | | |
| Other overheads | 4,500 [1] | | |
| Administration | <u>25,000 [1]</u> | | <u>35,500</u> |
| Profit | | | <u>117,750 [1]</u> |

Total cost is 85% of sales.

Total cost = 631,750 + 35,500 = 667,250

85% of sales = 667,250

100% = 785,000