Question 8 – Marginal Costing

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(a) High Low Method

	Output (Units)	Production Overheads
High	90,000	330,000
Low	30,000	150,000
Difference	60,000	180,000

Variable cost per unit = $\frac{180,000}{60,000}$ = **€3 per unit** **[4]**

Total cost of 90,000 units	=	330,000		
Less variable cost (90,000 × €3)	=	270,000		
Fixed cost	**=**	60,000	**€60,000**	**[4]**

(b)

Marginal Costing Statement	**€**	**€**	**€ Per unit**
Sales (60,000 units)		1,320,000	22.00
Less variable costs			
Direct materials	270,000		
Direct wages	207,000		
Factory overhead (60,000 × €3)	180,000		
Sales commission (5% of sales)	66,000	(723,000)	12.05
Contribution		597,000	9.95
Less fixed costs			
Administration expenses	101,250		
Selling expenses (excl. commission)	16,500		
Factory overhead	60,000	(177,750)	
Net profit		419,250	

Break-even point $\frac{\text{fixed cost}}{\text{CPU}}$ $\frac{177,750}{9.95}$ **[4]** **[5]** = **17,865 units** **[4]**

Margin of safety budgeted sales 60,000 **[2]** **less** break-even point 17,865 **[1]** = **42,135 units** **[2]**

(c) Number of units that must be sold at €25 to provide a profit of 10% of the sales revenue

Variable cost per unit (excl. sales commission)	=	10.95
At €25 per unit the 5% commission	=	1.25
New variable cost per unit	=	12.20

Let number of units	=	N
Sales revenue	=	25N
Profit	=	2.5N

Sales	**=**	**Variable Costs**	**+**	**Fixed Costs**	**+**	**Profit**		
25N **[2]**	=	12.2N **[4]**	+	177,750 **[2]**	+	2.5N **[4]**		
10.3N	=	177,750						
N	=	17,257.28					**[2]**	**17,258 units**

(d) The selling price to be charged in 2017

Let **S** be the selling price

Sales	**–**	**Variable costs**	**=**	**Fixed costs**	**+**	**Profit**	
60,000S **[1]**	–	60,000 [10.95 + 0.05S] **[5]**	=	199,080 **[3]**	+	419,250 **[3]**	
60,000S	–	[657,000 + 3,000S]	=	618,330			
60,000S	–	3,000S	=	618,330	+	657,000	
57,000S			=	1,275,330			
Selling price			=	€22.3742			**[2] €22.37**

(e) Report on the effect on profit of a number of options:

To: **The manager of Clarke Ltd [1]**

From:

Date:

Option 1

Selling price – 10%	=	19.80		
Fixed costs + 30,000	=	207,750		
Sales volume + 20%	=	72,000	units	
New variable cost per unit (10.95 + 0.99)	=	11.94		
Sales (72,000 × 19.80)			1,425,600	**[3]**
Less variable costs (72,000 × 11.94)			(859,680)	**[3]**
Contribution			565,920	
Less fixed costs			(207,750)	**[2]**
Net profit			**358,170**	**[1]**

Option 2

Fixed costs + 40,000	=	217,750		
New variable cost per unit (12.05 – 2.00)	=	10.05		
Sales (60,000 × €22)			1,320,000	**[3]**
Less variable costs (60,000 × €10.05)			(603,000)	**[3]**
Contribution			717,000	
Less fixed costs			(217,750)	**[2]**
Net profit			**499,250**	**[1]**

Choose Option 2
Option 2 would generate a profit of €141,080 greater than option 1 **[1]**

(f) **[6]**

Sensitivity Analysis is also known as 'what if' analysis. It is a technique used by management accountants to show the effect on profit brought about by changes in the following:

1. Selling price
2. Sales volume
3. Variable costs
4. Fixed costs

The examples in part (e) are examples of sensitivity analysis.

Question 9 – Budgeting

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(a)

Production budget	**Basic**		**Deluxe**	
Budgeted sales in units	1,800	**[2]**	1,500	**[2]**
Add closing stock	45	**[2]**	54	**[2]**
	1,845		1,554	
Less opening stock	(50)	**[2]**	(60)	**[2]**
Budgeted production (units)	1,795		1,494	

(b)

Materials Purchases Budget		**Material A (Kgs)**			**Material B (Kgs)**	
Basic	(1,795 x 5kgs)	8,975	**[2]**	(1,795 × 3kgs)	5,385	**[2]**
Deluxe	(1,494 × 7kgs)	10,458	**[2]**	(1,494 × 6kgs)	8,964	**[2]**
		19,433			14,349	
Add closing stock		2,700	**[2]**		1,800	**[2]**
		22,133			16,149	
Less opening stock		(3,000)	**[2]**		(2,000)	**[2]**
Budgeted purchases if R.M. in kgs		19,133			14,149	
Purchase price		€5	**[1]**		€6	**[1]**
Purchases in €		€95,665			€84,894	

(c)

Production Cost/Manufacturing Budget	**€**	**€**	
Opening stock of raw materials			
A (3,000 × €4.50)	13,500		
B (2,000 × €5.50)	11,000	24,500	**[4]**
Add purchases of raw materials (95,665 + 84,894)		180,559	**[2]**
		205,059	
Less closing stock of raw materials			
A (2,700 × €5)	13,500		
B (1,800 × €6)	10,800	(24,300)	**[4]**
		180,759	
Labour cost			
Basic (1,795 × 4 × 15)	107,700		
Deluxe (1,494 × 5 × 15)	112,050	219,750	**[4]**
Variable overhead			
Basic (1,795 × 4 × 8)	57,440		
Deluxe (1,494 × 5 × 8)	59,760	117,200	**[4]**
Fixed overhead		322,300	**[2]**
Cost of Manufacture		**840,009**	**[3]**