

Q.8 Marginal and Absorption Costing

(a)

58

(i) High Low Method

	Output (units)	Production Overheads
High	21,000	148,500
Low	<u>13,800</u>	<u>123,300</u>
Difference	7,200	25,200

$$\text{Variable Cost per Unit} = \frac{25,200}{7,200} = \text{€}3.50 \quad [4]$$

Total cost at 21,000 Units	=	148,500	
Less variable cost (21,000 × €3.50)		<u>73,500</u>	
Fixed cost		<u>€75,000</u>	[4]

(ii) Marginal Costing Statement

	€	€	€ Per Unit
Sales (26,000 units)		1,040,000	40.00
Less Variable Costs			
Direct materials (26,000 × €8.50)	221,000		8.50
Direct labour (26,000 × €14.00)	364,000		14.00
Factory overheads (26,000 × €3.50)	91,000		3.50
Sales commission (26,000 × €2.40)	<u>62,400</u>	<u>(738,400)</u>	2.40 *
Contribution		301,600	11.60
Less Fixed Costs			
Administration expenses	115,500		
Selling expenses (excl. commission)	25,500		
Factory overheads	<u>75,000</u>	<u>(216,000)</u>	
Net Profit		<u>85,600</u>	

$$\text{Break Even Point} = \frac{\text{Fixed costs}}{\text{CPU}} = \frac{216,000}{11.60} = 18,621 \text{ units} \quad [4]$$

$$\text{Margin of Safety} = \text{Budgeted sales} - \text{Break-even point} = 26,000 [2] - 18,621 [1] = 7,379 \text{ units} \quad [2]$$

* While selling price remains at €40.00 per unit and commission remains at 6%

(iii) Number of units that must be sold at €45 to provide a profit of 15% of the sales revenue.

Variable cost per unit (excl. sales commission)	=	26.00
At €45 sales price per unit, the 6% commission	=	<u>2.70</u>
New variable cost per unit	=	28.70

Let number of units	=	U
Sales revenue	=	45U
Profit	=	6.75U

Sales	=	Variable costs	+	Fixed costs	+	Profit
45U [2]	=	28.7U [4]	+	216,000 [2]	+	6.75U [4]
9.55U	=	216,000				
U	=	22,617.80		22,618 units [2]		

Alternative

Fixed costs	=	<u>216,000</u> [2]	=	22,618 units [2]
CPU – 15%		16.30 – 6.75 [10]		

(iv) The profit given changes in selling price, units sold, variable and fixed costs.

Sales	(31,200 × €38)	1,185,600	[6]
Less variable costs	(31,200 × €28.66) *	<u>(894,192)</u>	[4]
Contribution		291,408	
Less fixed costs	216,000 + 8,640	<u>(224,640)</u>	[2]
Profit		66,768	[2]

* Variable costs PU = €8.50 + €14.00 + €3.50 + €2.66 = €28.66

(v)

Step fixed costs

Step fixed costs are costs that are fixed within a certain range of activity but change outside of that range. [2]

E.g. rent could be fixed up to a certain level of production. However, if production increases and results in the rental of more factory space, then the rent would increase to a new level. Thus, the fixed costs would increase in steps. [2]

(b)

(i)

Absorption Costing

	Units		€	€
Sales	12,000	× €4.20		50,400 [1]
Less Production Costs (15,000 units)				
Materials	15,000	× €0.70	10,500 [1]	
Labour	15,000	× €0.60	9,000 [1]	
Variable	15,000	× €0.55=	8,250 [1]	
Fixed overheads			<u>8,400</u> [1]	
			36,150	
Less closing stock	3,000/15,000 =	20% of €36,150	<u>(7,230)</u> [2]	<u>(28,920)</u>
Profit				<u>21,480</u>

Marginal Costing

	Units	€	€	€
Sales	12,000	× €4.20		50,400 [1]
Less Production Costs (15,000 units)				
Materials	15,000	× €0.70 =	10,500 [1]	
Labour	15,000	× €0.60 =	9,000 [1]	
Variable	15,000	× €0.55 =	<u>8,250</u> [1]	
			27,750	
Less closing stock	3,000/15,000 =	20% of €27,750 =	<u>(5,550)</u> [1]	<u>(22,200)</u>
Contribution				[1]28,200
Fixed costs				<u>(8,400)</u> [1]
Profit				<u>19,800</u>

(ii) Marginal v Absorption Costing

[8]

There is a different profit figure because closing stock is valued differently.

Marginal costing does not include fixed costs when costing a product whereas absorption costing does include the fixed costs.

Therefore, closing stock under marginal costing is valued lower than under absorption costing because a share of fixed costs is included in the value of stock under absorption costing but not included under marginal costing.

Under absorption costing, closing stock is valued at 20% of the production cost of €36,150.

Under marginal costing, closing stock is valued at 20% of the production cost of €27,750.

Closing stock under absorption costing is €7,230.

Closing stock under marginal costing is €5,550.

This is a difference of €1,680.

The profit difference is $€21,480 - €19,800 = €1,680$

Absorption costing should be used as it agrees with standard accounting practice and concepts and matches costs with revenues.