

**Q.8 Overhead Apportionment/Job Costing**

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(a)

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Overhead	Basis	Total	Prod X	Prod Y	Service 1	Service 2
Indirect materials	Given	480,000	265,000	215,000		
Indirect labour	Given	420,000	280,000	140,000		
Machine maintenance	Machine hours	18,000	10,800	7,200	[1]	
Dep - buildings	Book value	36,000	18,000	9,000	[1]	3,000
Factory L & H	Volume	24,000	12,000	6,000	[1]	2,000
Factory cleaning	Floor area	10,000	5,000	3,000	[1]	1,000
Canteen	No. of employees	8,750	3,750	3,750	[1]	1,250
		<u>996,750</u>	<u>594,550</u>	<u>383,950</u>	[1]	<u>6,000</u>

(b)

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	Production X	Production Y	Service 1	Service 2
Overhead Costs	594,550	383,950	12,250	6,000
Apportion Service 1	7,350	4,900	(12,250)	
Apportion Service 2	3,300	2,700		(6,000)
	<u>605,200</u>	<u>391,550</u>		

(c)

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**Overhead Rate Production X - (Machine Hours)**

$$\frac{605,200}{48,000 \text{ hours}} = \text{€}12.61 \text{ per machine hour [6]}$$

**Overhead Rate Production Y - (Labour Hours)**

$$\frac{391,550}{30,000 \text{ hours}} = \text{€}13.05 \text{ per labour hour [6]}$$

**Or based on Machine Hours**

$$\frac{391,550}{32,000 \text{ hours}} = \text{€}12.24 \text{ per machine hour}$$

(d)

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Selling price of Job No. 925	€	€	
Direct materials	(8,500 + 3,800)	12,300.00	[3]
Direct labour	(3,000 + 4,900)	<u>7,900.00</u>	[3]
Prime cost		20,200.00	
Overheads:			
Production X	(100 machine hours × €12.61)	1,261.00	[4]
Production Y	(200 labour hours × €13.05)	<u>2,610.00</u>	[4]
Cost of job no. 925		24,071.00	
Margin of 20%		<u>6,017.75</u>	[2]
Selling price of job no. 925		<u><u>30,088.75</u></u>	[6]

Selling price of Job No. 925	€	€	
Direct materials	(8,500 + 3,800)	12,300.00	[3]
Direct labour	(3,000 + 4,900)	<u>7,900.00</u>	[3]
Prime cost		20,200.00	
Overheads:			
Production X	(100 machine hours × €12.61)	1,261.00	[4]
Production Y	(120 machine hours × €12.24)	<u>1,468.80</u>	[4]
Cost of job no. 925		22,929.80	
Margin of 20%		<u>5,732.45</u>	[2]
Selling price of job no. 925		<u><u>28,662.25</u></u>	[6]

- (e) (i) Service departments cannot recover costs because no production takes place in these departments. Service departments are secondary to production departments and as a result, service department costs must be transferred to production departments on an equitable basis e.g. machine hours. Overheads can only be recovered through production i.e. they are included as a cost of production.
- (ii) Allocation is where overhead costs can be specifically identified and charged to a particular department or cost centre. These overheads are allocated to that department.

Apportionment is where overheads cannot be specifically identified but are shared or divided between departments using an appropriate basis of apportionment.

Absorption is the method by which costs are charged to cost units/units of products in order to be recovered. An overhead absorption rate for each department can be calculated using a suitable basis such as rate per unit, per labour hour and per machine hour.