

SECTION C

① a) Predetermined manufacturing overhead = $\frac{\text{estimated annual manufacturing overhead costs}}{\text{estimated annual machine hours}}$

$$= \frac{180000}{20000} = \underline{\underline{\$9 \text{ per machine hour}}}$$

(b) Predetermined manufacturing overhead = $\frac{\text{estimated annual manufacturing overhead costs}}{\text{estimated annual direct labour cost}}$

$$= \frac{150000}{300000} = \underline{\underline{\$0.50 \text{ per direct labour cost}}}$$

(c) Allocation of total MOH allocated to jobs in each department in March

To assembly dept = Actual machine hours $\times$ Predetermined manufacturing overhead rate.

$$= 1150 \times 9 = \underline{\underline{\$10250}}$$

MOH allocated to Painting dept = actual direct labour cost $\times$ predetermined manufacturing overhead

$$= 15000 \times 0.50 = \underline{\underline{\$7500}}$$

MOH allocated to assembly = Machine hrs $\times$ overhead rate

$$= 40 \times 9 = \underline{\underline{\$360}}$$

MOH alloc to painting = $25 \times 0.5 = \underline{\underline{\$1250}}$

	Assembly Dept	Painting Dept
Direct mat	\$1500	\$1800
Direct labour	\$2400	\$1250
Overhead	\$360	\$1250
Total cost	\$4260	\$3062.50

② Hourly rate = $\frac{\text{Annual salary}}{\text{Expected no. of annual working hrs}}$

$$= \frac{210000}{1500} = \underline{\underline{\$140}}$$

b) Direct labour cost = budgeted number of labour hrs $\times$ hourly cost rate

$$= 20 \times 140 = \underline{\underline{\$2800}}$$

c) MOH allocated to client = No. of labour hrs $\times$ overhead rate / hour

$$= 20 \times 32 = \underline{\underline{\$640}}$$

$$\begin{aligned}
 d) \text{ Total job cost} &= \text{direct labour} + \text{toft allocated cost} \\
 &= \$2800 + \$640 \\
 &= \underline{\underline{\$3440}}
 \end{aligned}$$

Question 3

$$\begin{aligned}
 (a) \text{ Overhead rate} &= \frac{\text{Total manufacturing overhead}}{\text{Total estimated activity level}} \\
 &= 600000 / 2500 \\
 &= \underline{\underline{\$24 \text{ per direct labour hour}}}
 \end{aligned}$$

$$\begin{aligned}
 (b) \text{ Overhead rate for machine} &= \frac{\text{Total manufacturing overhead}}{\text{estimated activity level}} \\
 &= 600000 / 20000 = \$3 \text{ per machine hr}
 \end{aligned}$$

$$c) \text{ Total direct labour hrs used in this job} = 250 \text{ hrs}$$

$$\begin{aligned}
 \text{Total overhead allocated} &= \text{Direct labour hours} \times \text{predetermined overhead rate for labour} \\
 &= 250 \times 24 = \$6000
 \end{aligned}$$

$$\begin{aligned}
 \text{Based on machine} &= 1200 \times 3 \\
 &= \$3600 \text{ machine hours}
 \end{aligned}$$

$$\begin{aligned}
 (d) \text{ Total direct material cost} &= \$6000 \\
 \text{Total labour cost for the job} &= \$3200
 \end{aligned}$$

$$\begin{aligned}
 \text{Total cost allocated for this job} &= \text{Direct material cost} + \text{Total labour cost} + \text{Manufacturing overhead based on labour} \\
 &= 6000 + 3200 + 6000 \\
 &= \underline{\underline{\$15200}}
 \end{aligned}$$

$$\begin{aligned}
 \text{Total cost based on machine} &= 6000 + 3200 + 3600 = \underline{\underline{\$12800}}
 \end{aligned}$$