**Question 30**

Highglen Ltd has two production departments — Machining and Assembling, and one service department — Maintenance.

The following are the estimated overheads for Year 10.

|  |  |
| --- | --- |
| Indirect Labour | £8,000 |
| Administration | £10,000 |
| Light and Heat | £2,100 |
| Machine Insurance | £1,250 |
| Power | £4,000 |
| Rent | £12,000 |
| Supervision | £5,000 |
|  | £42,350 |

The following information is also available:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Machining** | **Assembling** | **Maintenance** | **Total** |
| Area (sq. metres) | 1,500 | 1,000 | 500 | 3,000 |
| Kilowatt Hours | 4,000 | 3,000 | 1,000 | 8,000 |
| Machine Hours | 6,000 | 4,000 | - | 10,000 |
| Number of Workers | 10 | 8 | 2 | 20 |
| Value of Machinery | £6,500 | £5,000 | £1,000 | £12,500 |
| Direct Material | £60,875 | £39,125 | - | £100,000 |
| Indirect Labour | £2,080 | £1,920 | £4,000 | £8,000 |

1. **Prepare** an overhead analysis sheet. **7**
2. **Re-apportion** the Maintenance department total to the other two departments   
   on the basis of their machine hours. **1**
3. **Calculate** the overhead recovery rate for the production departments on the   
   following bases:

Machining — percentage of direct materials

Assembly — number of machine hours **2**

Actual figures for the production departments were as follows:

|  |  |  |
| --- | --- | --- |
|  | **Machining** | **Assembling** |
| Direct Materials | £64,000 | - |
| Machine Hours | - | 3,500 |
| Overheads | £24,000 | £17,000 |

1. **Calculate** the amount of overheads over-absorbed or under-absorbed in each department, clearly stating which. **5**

**Total marks (15)**

**Question 30 — solution**

(a) **Overhead Analysis Sheet**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Basis of Apportionment** | **Total** | **Machining** | | **Assembly** | | **Maintenance** | |  |
| Indirect Labour | Allocated | £8,000 | | £2,080 | | £1,920 | | £4,000 | **(1) line** | |
| Administration | Employees | £10,000 | | £5,000 | | £4,000 | | £1,000 | **(1) line** | |
| Light and Heat | Area | £2,100 | | £1,050 | | £700 | | £350 | **(1) line** | |
| Machine Insurance | Value of Machinery | £1,250 | | £650 | | £500 | | £100 | **(1) line** | |
| Power | Kw hours | £4,000 | | £2,000 | | £1,500 | | £500 | **(1) line** | |
| Rent | Area | £12,000 | | £6,000 | | £4,000 | | £2,000 | **(1) line** | |
| Supervision | Employees | £5,000 | | £2,500 | | £2,000 | | £500 | **(1) line** | |
|  |  | £42,350 | | £19,280 | | £14,620 | | £8,450 | **7** |

(b) **Share of Maintenance**

**(1)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| per machine hour | | £8,450 | £5,070 | £3,380 |  |  |
|  |  | £42,350 | £24,350 | £18,000 |  | **1** |
|  |  |  |  |  |  |  |

(c) **Overhead Recovery Rate**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | £24,350 | X 100  **(1)** | £18,000 |  |  |
|  |  | £60,875 | 4,000 | **(1)** |  |
|  |  |  | = **40%** |  | = **£4·50** | **2** |

(d) **Overheads Over/Under-absorbed**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | **Machining** | **Assembly** |  |
|  |  |  |  |  |
|  | Overheads Recovered | £64,000 x 40% | 3,500 x £4·50 |  |
|  |  | **(1)**  £25,600 | **(1)**  £15,750 |  |
|  | Less Actual Overheads | £24,000 | £17,000 | **(1) line** |
|  |  | **£1,600 over (1)** | **£1,250 under (1)** |  |
|  |  |  |  |  |
|  |  |  |  | **5** |
|  |  |  |  |  |
|  |  |  |  |  |

**Total marks (15)**