**Question 18**

Fortrose Ltd has three departments: two production — A and B, and one service — C.   
Each production department makes a different product. The service department handles direct materials.

The following are the estimated fixed overheads for Year 2:

|  |  |
| --- | --- |
| Supervision | £10,000 |
| Machinery Insurance | £2,500 |
| Rent | £24,000 |
| Power | £8,000 |
| Administration | £20,000 |
|  | £64,500 |

The following information is also available:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Production Department**  **A** | **Production Department**  **B** | **Production Department**  **C** | **Totals** |
| Area (sq metres) | 3,600 | 1,500 | 900 | 6,000 |
| Number of Workers | 20 | 16 | 4 | 40 |
| Value of Machinery | £13,000 | £10,000 | £2,000 | £25,000 |
| kW Hours | 10,000 | 5,000 | 1,000 | 16,000 |
| Machine Hours | 40,000 | 15,000 | – | 55,000 |
| Indirect Labour | £26,300 | £20,500 | £16,700 | £63,500 |
| Direct Materials | £360,000 | £120,000 | – | £480,000 |

(a) (i) **Prepare**, using the information above, an overhead analysis statement for   
Year 2.

(ii) **Re-apportion** the service department total to the production departments   
on the basis of the direct material handled.

(iii) **Calculate** the fixed overhead recovery rate for the production departments   
on the following bases:

**Department A** — machine hours

**Department B** — percentage of direct materials **16**

(b) At the end of Year 2 the **actual** figures for each department were:

**Department A** — 38,500 machine hours

**Department B** — £124,000 direct material cost

**Calculate** for each department the amount of overheads over-absorbed or   
under-absorbed, clearly indicating which. **4**

**Total marks (20)**

**Question 18 — solution**

**Fortrose Ltd**

(a)(i)/(ii) **Overhead Analysis Statement**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Overhead** | **Basis** | **Total** | **Department A** | **Department B** | **Department C** |  |
| **Supervision** | No of workers | £10,000 | £5,000 | £4,000 | £1,000 | **(2)** |
| **Machinery Insurance** | Value of machinery | £2,500 | £1,300 | £1,000 | £200 | **(2)** |
| **Rent** | Area | £24,000 | £14,400 | £6,000 | £3,600 | **(2)** |
| **Power** | kW hours | £8,000 | £5,000 | £2,500 | £500 | **(2)** |
| **Administration** | No of workers | £20,000 | £10,000 | £8,000 | £2,000 | **(2)** |
| **Indirect Labour** | Allocated | £63,500 | £26,300 | £20,500 | £16,700 | **(1)** |
| **Sub-totals** |  | £128,000 | £62,000 | £42,000 | £24,000 |  |
| **Share of Department C** |  |  | £18,000 | £6,000 |  | **(2)** |
| **Departmental Totals** |  |  | **£80,000** | **£48,000** |  | **(1)** |

**14**

(a) (iii) Overhead recovery rates:

Department A — £80,000

40,000 hours = £2·00 per machine hour **(1)**

Department B — £48,000

£120,000 = 40% **(1)**

**2**

(b) Department A — 38,500 x £2·00 = £77,000 **(1)**

£80,000 − £77,000 = £3,000 over-absorbed

**(1)**

Department B — £124,000 x 40% = £49,600 **(1)**

£49,600 − £48,000 = £1,600 under-absorbed  **4**

**(1)**

**Total marks (20)**