**MRP exercise**

Your company is producing

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Level 0** | **Finished product P** | | | | |
|  | 1 | | 2 | | |
| **Level 1** | MP1 |  | MP2 | | |
|  | 2 |  | 1 |  | 2 |
| **Level 2** | SMP1 |  | SMP1 |  | SMP2 |

Sales forecasts are below :

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **W 1** | **W 2** | **W 3** | **W 4** | **W 5** | **W 6** | **W 7** |
| Product P | 0 | 0 | 0 | 50 | 100 | 150 | 0 |

Other information needed are

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Safety stock** | **Beginning inventory** | **lot size** | **In weeks** |
| Product P | 10% of demand | 60 | 20 | blending process : 1 |
| MP 1 | - | 110 | 20 | production cycle : 1 |
| MP 2 | - | 120 | 20 | production cycle : 1 |
| SMP 1 | - | 130 | 20 | lead time : 2 |
| SMP 2 | 5% | 320 | 20 | lead time : 2 |

Question: Identify net requirements, scheduled receipts as well as launching production quantity (assembling, production and purchasing) meeting with requirements. Use the following table to calculate :

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **1** | **2** | **3** | **4** | **5** | **6** | **7** |
| Demand |  |  |  |  |  |  |  |
| Safety stock |  |  |  |  |  |  |  |
| Inventory |  |  |  |  |  |  |  |
| Net requirement |  |  |  |  |  |  |  |
| Scheduled receipt |  |  |  |  |  |  |  |
| Production order |  |  |  |  |  |  |  |

1 Related to product P what the value of production order in period 5?

2 Related to MP1, what is the value of production order in period 4?

3 Related to MP2, what is the value of production order in period 3?

4 Related to SMP1, what is the value of scheduled receipt in period 5?

5 Related to SMP2, what is the value of production order in period 3?

6 Is it possible to answer an unexpected sale fo 50 P early week 7 without changing production plan?