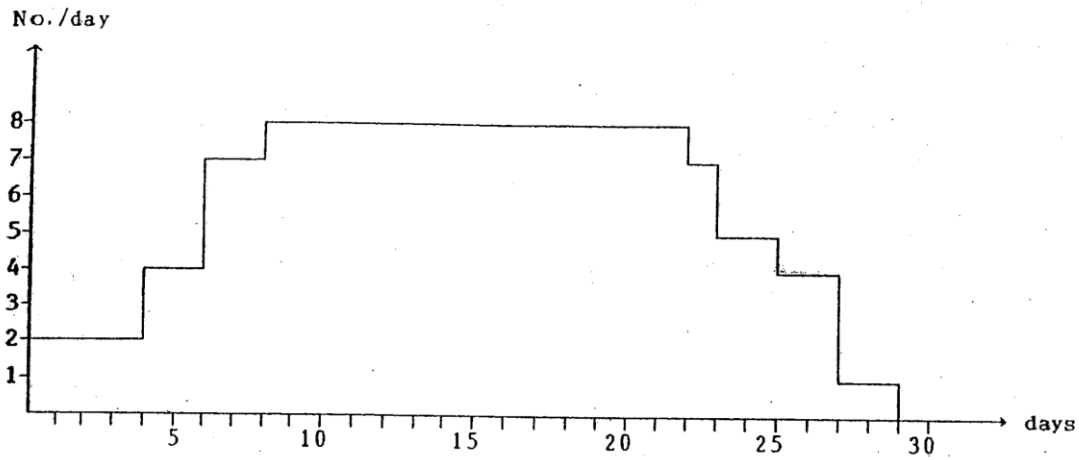


Question 1



Consider the resource profile shown above which belongs to usage of an item of equipment.

Calculate: 1. $\sum R^2$ of the resource profile.

$$2*1 + 4*4 + 4*16 + 2*25 + 3*49 + 14*64 = 1175$$

2. Cumulative usage of the resource.

$$2*1 + 4*2 + 4*4 + 2*5 + 3*7 + 14*8 = 169$$

3. Average usage and the corresponding likely usage of the resource.

$$\text{Average} = 169 / 29 = 5.83$$

$$\text{Likely} = 6$$

4. Minimum theoretical $\sum R^2$ of the resource usage.

$$29*36 = 1044$$

Question

The activities given in Table below represent a section of work being undertaken by a subcontractor. The activities' predecessors, duration, early start, total float, free float and labour requirement are also listed. The labour profile made up of the preferred limits chosen by the subcontractor is shown in Figure below.

What are the scheduled timings of the activities that satisfy the preferred profile ?

Activity	Predecessors	Duration	ES	TF	FF	No. of Labour
K	-	4	0	-	-	2
L	K	2	4	19	7	3
M	K	6	4	9	-	4
N	K	9	4	-	-	4
O	N	10	13	-	-	4
P	M	3	10	12	-	3
Q	M	8	10	9	9	4
R	L,P	2	13	12	12	2
S	O	4	23	-	-	2
T	Q,R,S	2	27	-	-	1

