NO INPUT

Work element 9

Tobs 0.22

PR 90

b c d

0.41 0.30 0.37

120 100 90

- PFD Allowance = 15%.

Standard time

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Apdf = 12%

work element	a	b	c	d
Tops	0.22	0.41	0.30	0.37
PR	90	120	100	90

$T_n = T_{ops}(PR)$

$T_{na} = \boxed{0.198s}$ $T_b = 0.41 \times 120\% = \boxed{0.492s}$

$T_{nc} = 0.30 \times 100\% = \boxed{0.3s}$ $T_{nd} = 0.37 \times 90\% = \boxed{0.333s}$

$\Sigma T_n = 0.198 + 0.492 + 0.3 + 0.333 = 1.323$

$T_{std} = T_n (1 + Apfd)$

$T_{std} = 1.323(1 + 12\%) = 1.323 + 1.12 = 1.481s$

* Four parts (A, B, C, D) are processed through a sequence of four operations (1, 2, 3, 4). Not all parts processed through same operations. part A has weekly quantity of 70, is processed through 1, 2, 3 in order part B has weekly quantity of 90, is processed through 2, 4, 1. part C with weekly quantity of 65 units, is processed through 3, 2, 4. Finally, part D with 100 weekly quantity 2, 1, 4.

(1) Draw Network Diagram
(2) Prepar From-To Chart

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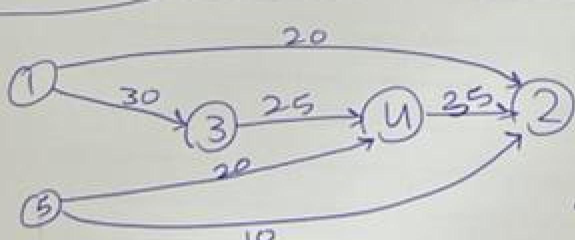
Work Systems and Engineering Management
Hollier algorithm – Assignment

Five workstations (1, 2, 3, 4, and 5) that produce about 10 similar parts must be arranged into an in-line layout. The daily flow of parts between workstations is as follows: 20 parts from stations 1 to 2, 30 parts from stations 1 to 3, 25 parts from stations 3 to 4, 20 parts from stations 5 to 4, 10 parts from 5 to 2, and 35 parts from stations 4 to 2. (a) Use the Hollier algorithm to determine the most logical sequence of stations in the work system. (b) Draw the network diagram for the system. (c) Compute the percentages of in-sequence, bypassing, and backflow moves for the sequence.

From-To chart

	1	2	3	4	5	Ratios
1		20	30			∞
2				25		0.38
3						0.83
4		35				0.778
5		10		20		∞



the new seq is: 1, 5, 3, 4, 2

Sum of all = 140

% in sequence = $\frac{30+25+35}{140}$ = 0.643 = 64.3%

% by passing = $\frac{20+20+10}{140}$ = 0.357 = 35.7%

% back flow = $\frac{0}{140}$ = 0%

Maximum percentages forward movement = 64.3% + 35.7% = 100%