

me293 – Project Management and Social Responsibility

CPM Tutorial Questions

Question 1

Widgetco is about to introduce a new product. One unit of this product is produced by assembling subassembly 1 and subassembly 2. Before production begins on either subassembly, raw materials must be purchased and workers must be trained. Before the subassemblies can be assembled into the final product, the finished subassembly 2 must be inspected. A list of activities, their predecessors, and their durations is given in the following Table.

Activity	Predecessors	Duration(days)
A – Train workers	-----	6
B – Purchase raw materials	-----	9
C – Make subassembly 1	A, B	8
D – Make subassembly 2	A, B	7
E – Inspect subassembly 2	D	10
F – Assemble Subassemblies	C, E	12

Do the following:

- Draw the project's Gantt chart.
- Draw this project's network diagram
- Calculate each activity's ES, EF, LS, LF and Float.
Summarize your calculations in a table.
- What are the project's Critical Path Activities?
Note these activities on the table you made in c.
- If there are any options to delay one or more activities without delaying the entire project, which ones would they be?

Question 2

The project data shown, involves the merger of two companies.

Do the following:

- Draw the project's Gantt chart.
- Draw this project's network diagram
- Calculate each activities ES, EF, LS, LF and Float.
Summarize your calculations in a table.
- What are the project's Critical Path Activities?
Note these activities on the table you made in c.
- If there are any options to delay one or more activities without delaying the entire project, which ones would they be?

Data for Solved Problem 2		
Activity	Immediate predecessor(s)	Estimated duration(days)
A	—	10
B	—	15
C	A	5
D	B	12
E	C, D	14
F	B	8
G	D, F	15
H	E	10
I	E, G	6
J	F, I	9