Tutorial letter 203/2/2016

Software Project Management

INF3708

Semester 2

School of Computing

UNIQUE NUMBER:
754822

Assignment due date: 13 September 2016
Total mark: 60 Marks = 100%
Mark weight: 40%

Questions on Chapter 6 -Activity Planning

QUESTION 1 **[45]**

1.1 Consider the following list of tasks with dependencies and estimated durations reflected in the table. Draw a CPM network (activity-on-arrow diagram) to illustrate the interaction of activities. (9)

Task	Precedents	Duration (weeks)
A	None	5
B	None	7
C	B	16
D	B	7
E	A	6
F	A	9
G	D, E	10
H	F,G	8

Table 1 for Question 1

1.2 Write down the critical path using the letters of the tasks and calculate and write down the duration of the project. How many paths are there in total? Identify them all and write them down. (3)

1.3 What will the effect on the project be if the duration of activity A changes to 8 weeks? (1)

1.4 Due to the advent of new technology the following changes will occur:

- Task A duration changes to 6 weeks
- Task G duration changes to 5 weeks
- Task Cis no longer dependent on the completion of Task B
- Task C duration changes to 28 weeks

Draw the activity-on-node network (precedence network) diagram for the tasks as given in the table, incorporating these changes. Indicate **all** the node values on the nodes. Indicate the critical path with a* on each task in the path (16)

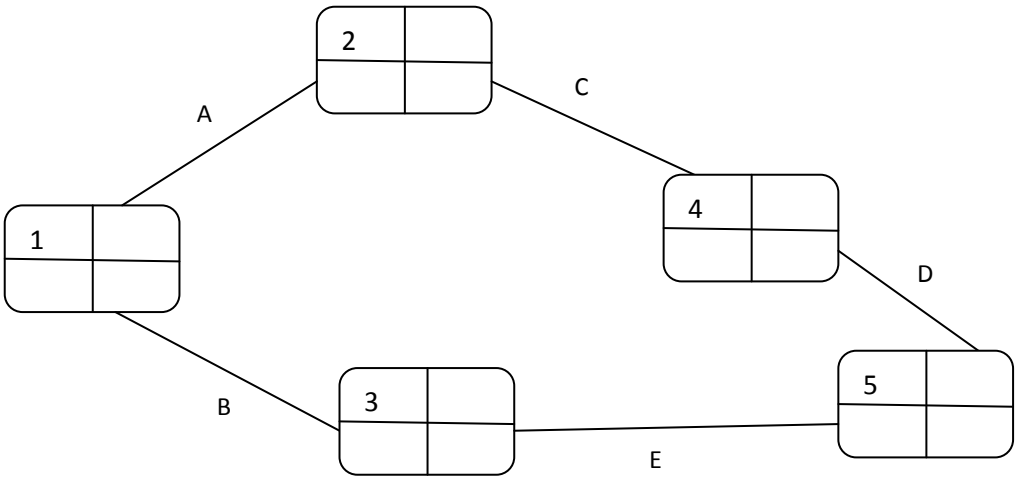
1.5 Calculate the earliest start time, earliest finish, latest start time, latest finish and total float of the tasks for the activity-on-node network (precedence network diagram drawn in Question 1.4. Give your answer in table format. (10)

1.6 Summarise the overall effect of the changes in 4 compared to the scenario in 1 and indicate whether the change in technology should be implemented or not.

Questions on Chapter 7 - Risk Management

QUESTION 2 **[15]**

In the PERT network illustrated in the figure below, the target date for the completion of the project is 15 weeks.



Pert network for Question 2

	Optimistic (a)	Most Likely (m)	Pessimistic (b)	Expected (te)	Standard Deviation (s)
A	4	6	8		
8	1	4	5		
C	2	3	5		

D	2	5	6		
E	3	4	5		

Table for Question 2

Use the table above to calculate the following:

2.1 Calculate the Expected (!e) values and Standard Deviation (s) and indicate the (te) and (s) values on the diagram. (10)

2.2 Calculate the Z value on the last event. (3)

2.3 According to Figure 7.8 (p.181) in your textbook, what is the probability of not meeting the target date? (2)