Assignment 04: Due date 18 September 2015

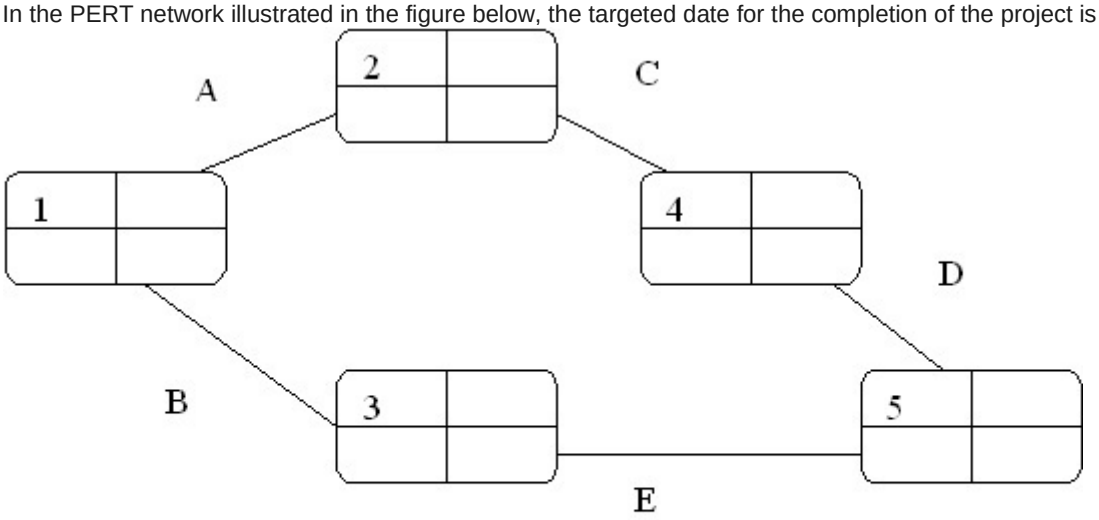
Unique nr: 594324
Marks weight: 30%

ASSIGNMENT 04 – SEMESTER 2

ASSIGNMENT 04	
Due date	18 September 2015
Study material	Hughes & Cotterell: Chapters 7 & 9
Total marks	35 marks = 100%
If your assignment is late, please DO NOT PHONE OR E-MAIL asking for an extension but include a note in your assignment stating the reason for the late submission and we will decide whether or not it will be marked.	

Question 1: Questions on Chapter 7 (18 marks)

In the PERT network illustrated in the figure below, the targeted date for the completion of the project is nine (9) weeks.

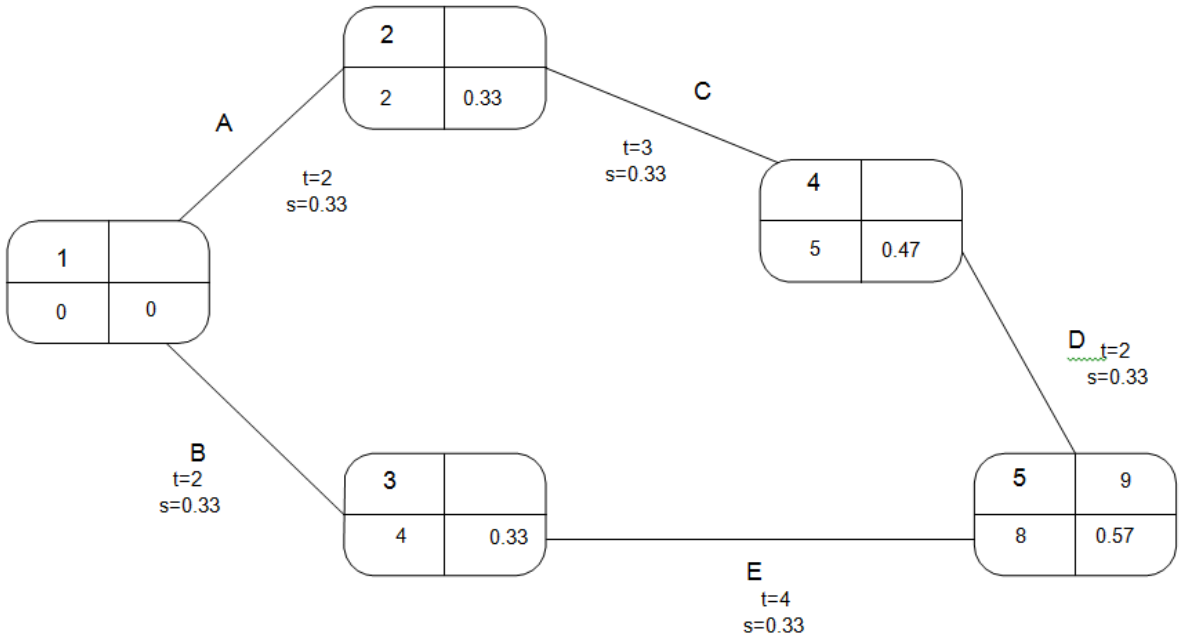


	Optimistic (a)	**Most likely (m)**	**Pessimistic (b)**	**Expected (t_e)**	**Standard deviation (s)**
A	1	2	3		
B	3	4	5		
C	2	3	4		
D	1	2	3		
E	3	4	5		

Table: *Values for the PERT network*
Use the table above to calculate the following:
1.1 Calculate the expected (te) values and standard deviation (s) (10)

	Optimistic **(a)**	Most likely **(m)**	Pessismistic **(b)**	Expected **(te)**	Standard deviation **(s)**
A	1	2	3	2	0.33
B	3	4	5	4	0.33
C	2	3	4	3	0.33
D	1	2	3	2	0.33
E	3	4	5	4	0.33
				(5 marks)	**(5 marks)**

1.2 Indicate the t_e and s values on the diagram. (8)



Pert Network

Question 2: Questions on Chapter 7 and Chapter 9 (17 marks)
2.1 Discuss the nature of resources. (12)

(ANY 6 listed and explained – 1 mark for listing, 1 mark for explanation)

Some points for discussion

- Resource – any item or person required for the execution of the project, from paper clips to key personnel.
- Stationery and standard office supplies role of office manager.
- Project Manager must plan for resources otherwise they may not be available when required.
- Project manager is a resource that is required throughout the project.
- Other resources such as a specific software developer may be required for a specific activity.
- The developer may be involved in other projects and be controlled at programme level, hence the importance for the Project Manager to plan for resources otherwise they may not be available when required.
- Seven categories of resources:

✓ Labour – development project team – project manager, system analysts, software developers; QA team, support staff, client organization staff

✓ Equipment – workstations, computing and office equipment, desks, chairs

✓ Materials – items that are consumed such as disks, rather than equipment that is used.

✓ Space – additional recruited or contracted staff need office space. Existing staff used in projects usually have readily available space

✓ Services – specialist services required for some projects eg scheduling of telecommunications services for development of a wide area distributed system

✓ Time – time is the resource that is being offset against the other primary resources. Increasing other resources can reduce timescales.

✓ Money – money is a secondary resource, used to buy other resources. It is consumes as other resources are used up. It is available at a cost, ie interest. The cost of money is a factor taken into account in Discount Cash flow (DCF) techniques such as NPV.

2.2 Give the definitions of of the following: (5)

- 0/100 technique
- 50/50 technique
- 72/25 technique
- The milestone technique
- Percentage complete

(1 for each definition)

NOTE: These are common methods in software projects of consistently assigning an earned value to tasks that have been started but are not yet complete

Earned value (EV) assigns a value to each task or work package (WBS) based on the original expenditure forecasts.

The original Budgeted cost for the item – Planned value (PV) or budgeted cost of work scheduled (BCWS).

A task that has not started is assigned an earned value of zero, and when it has been completed it is credited with the original planned value. The total value credited to a project at any point is known as the earned value (EV) or budgeted cost of work performed (BCWP). This can be represented as a money value, an amount of staff time or as a percentage of the PV. EV is thus analogous to the agreed price to be paid to the contractor once the work is completed.

Where tasks have been started but not completed, some consistent method of assigning an earned value must be applied.

Definitions:

0/100 – the task is assigned a value of zero until it is completed, and then it is given a 100%
value of the budgeted value. *Preferred technique for software development*

50/50 – task is assigned a value of 50% of its value as soon as it starts, and then given 100% on completion. Similar to contractor being given half of agreed price when starting work, and the remainder on completion. *Can give a false sense of security by over-valuing the reporting of activity starts.*

75/25 – task is assigned EV of 75 % on starting, and 25 % on completion. Often used when a large item of equipment is paid. 75 % paid on delivery, and remainder on installation and satisfactory testing

Milestone technique – task is given a value based on achievement of milestones that have been assigned values as part of the original budget plan. *Might be appropriate for activities with a long duration, but may need to break into smaller ones*

Percentage complete – objectively measuring the amount of work completed. For example, based on no of records manually typed into a database, where the no thus far typed can be objectively counted.