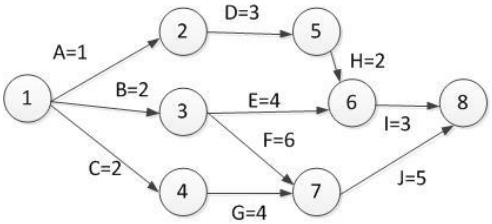
Comp313 – Project Management

Exercise 5

Please answer the following question

1. Calculate the critical path based on the network diagram shown below?



2. According to past experiences and expert judgment, this kind of project may take 5 working days to complete at fastest; 20 working days at a pessimistic estimate; and most likely to be 9 days. Calculate the PERT weighted average.

3. Draw PDM network diagram to describe the dependencies of the activities as below:

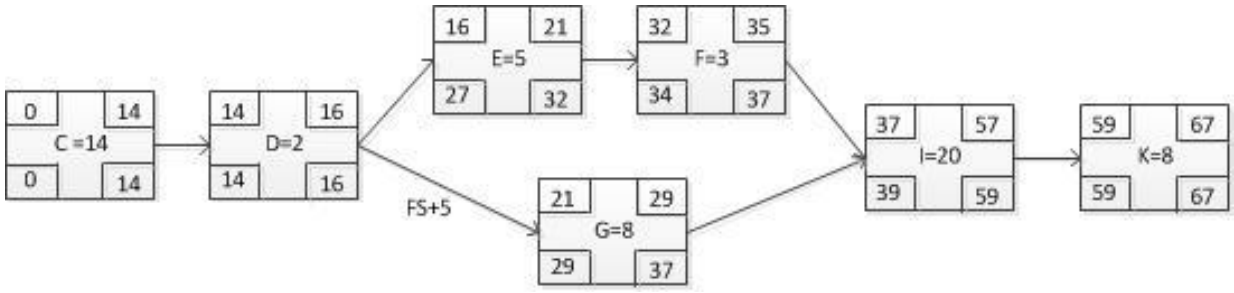
Activity	Description	duration	predecessor
A	Collecting user requirements	3	
B	Writing requirement specification	14	A
C	High level architectural design	5	B
D	Database design	3	C
E	Interface design	8	C
F	Module design	10	C
G	Coding (Modules 1, 2) + Unit testing	14	D, F
H	Coding (Modules 3) + Unit testing	8	D, E
I	User Acceptance Test	3	G, H

How many days the project needs to take in total?

Use *Forward pass* and *Backward pass* to determine the late starts and late finishes for all the activities in the PDM.

4. Determine the Total Slacks and Free Slacks for the following activities C,D,E,F,G,I,K.

Activity	Free slack	Total slack
C		
D		
E		
F		
G		
I		
K		



5. When the project needs to rush for a completeness to an earlier date without changing the scope, you need to speed up the process through either Fast-tracking or Crashing methods. How do they manage to expedite the project? Compare the two in terms of their pros and cons.

6. Describe all the types of dependencies.
   There are a series of activities. Show the dependencies between the activities.
   I am now planning a trip to the US from Macao. I will do the following:
   a) Buy a flight ticket online
   b) Buy travel issuance
   c) Apply leave (may not be approved)
   d) Book hotel rooms
   e) Apply a credit card
   f) Apply a US visa

7. What does the Schedule Baselines contains? What is the purpose of it?