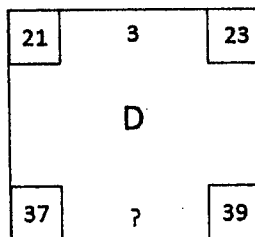


1. (8%) The following table is an activity list that includes the duration and predecessor for a series of project activities. What is the duration of the critical path?

Activity	Duration	Predecessor
A	2	Start
B	5	A, E
C	6	A
D	3	B, C
E	7	Start
F	2	E
End	-	D,F

2. (7%) Following figure is an illustration of a project network activity node that includes some information about activity D. Given the information provided, what is the total float of activity D?



3. (7%) CPM schedule must have only one critical path? True or False
4. (7%) Non-critical activities must have free float? True or False
5. (7%) A construction project manager had originally planned to use both of the company's cranes simultaneously for a project but has just learned that one of them will be unavailable. The project manager adjusts the schedule so that the works are done sequentially using the one remaining crane. Unfortunately, this action affects the critical path and delays the planned finish date of the project. What tool or technique has the project manager used in this situation?
- A. Fast tracking
 B. Resource smoothing
 C. Crashing
 D. Resource Leveling
6. (7%) 4D in BIM refers to integrating 3D Model Geometry with:
- A. Cost
 B. Quantities
 C. Risk
 D. Schedule
7. (7%) A lump sum contract can have unit price item? True or False
8. (7%) Unit price contracts can have lump sum item? True or False

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9. (8%) If you were asked to perform an excavation contract competitively with limited boring data (鑽探資料) what type of contract would you want and why?
10. (7%) You are managing an apartment construction project, and you have asked your project team to calculate the current earned value metrics to determine the project performance. Your team reports back that the project's to-complete performance index (TCPI) is 0.9 based on the budget at completion (BAC). Which of the following is true regarding your project's current situation as reflected by this TCPI value?
- A. The project is within budget
 - B. The project is over budget
 - C. The project is behind schedule
 - D. The project is ahead of schedule
11. (7%) Which term describes a modification of a logical relationship that delays a successor task?
- A. Lag
 - B. Lead
 - C. Float
 - D. Slack
 - E. None of the above
12. (7%) Given identical annual interest rate in exactly same scenarios, compare methods of computing simple interest and compounded interest:
- A. Simple interest is higher
 - B. Compounded interest is higher
 - C. They are the same
 - D. Before comparing, the length of interest period should be taken into consideration
13. (7%) Your company is planning on building a shed. The project manager is confident that the construction will be completed in 6 weeks, with a most optimistic estimate being 4 weeks, and the worst case scenario might take it to 11 weeks. What is PERT expected time duration of this project?
14. (7%) What actions could you as the contractor take to instill a sense of safety among your workers?

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