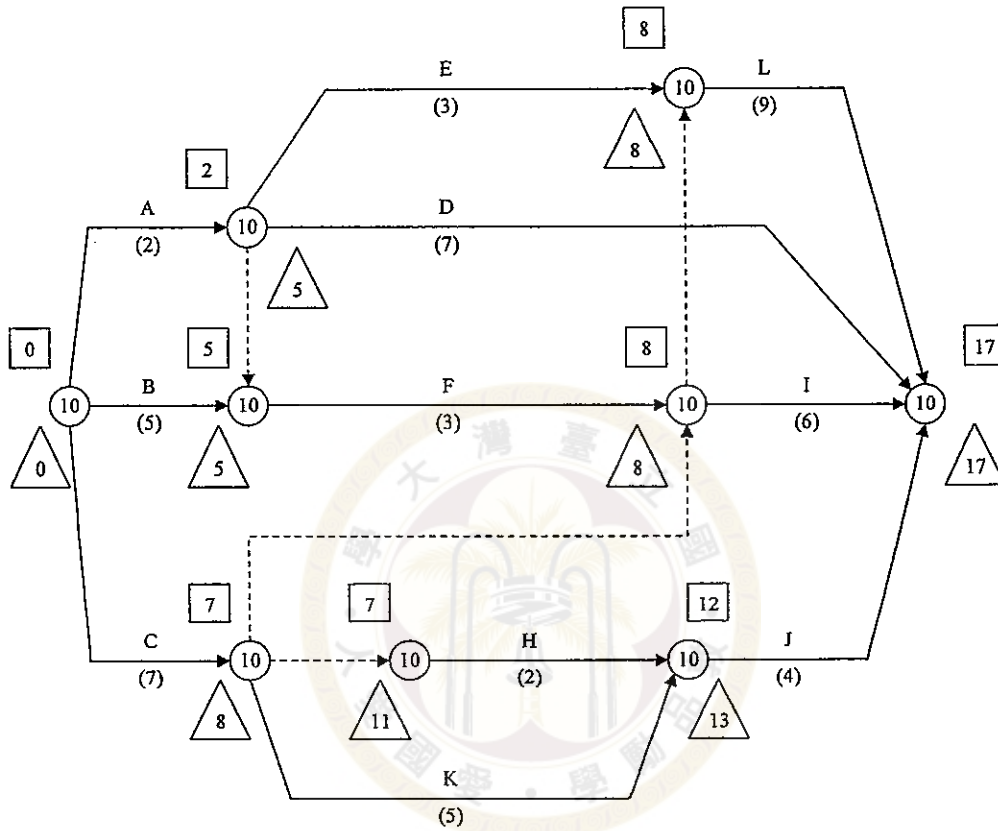


※ 注意：請於試卷上依序作答，並應註明作答之大題及其題號。

I. (28%) Given the following activities (unit of time is day) and answer the following questions.

Assume that the working hours of every day are from 8 am to 5 pm.



1. The total number of days required to complete the network (project) is:
  - a. 16
  - b. 17
  - c. 18
  - d. 19
  - e. 20
2. The Critical Path includes Activities:
  - a. B, F, L
  - b. B, F, I
  - c. C, K, J
  - d. A, E, L
3. The earliest time that Activity J can start is in the morning of day:
  - a. 9
  - b. 10
  - c. 11
  - d. 12
  - e. 13
4. The early finish time for Activity D is in the evening of day:
  - a. 7
  - b. 8
  - c. 9
  - d. 10
  - e. 11
5. The latest time Activity A must be finished is in the evening of day: (otherwise the project will be delayed)
  - a. 2
  - b. 3
  - c. 4
  - d. 5
  - e. 6

見背面

6. The latest time Activity H must start is in the morning of day:  
(otherwise Activity J can not start at its early start)
- a. 7            b. 8            c. 9            d. 10            e. 11
7. Assume that all Activities start at their early start (except Activity J). If Activity H takes 6 days to complete. What is correct?
- a. That Activity J can not start at its early start (ES).  
b. The total project will be delayed by 1 day.  
c. Neither the project completion nor early starting time of Activity J will be affected.

II. Describe the general principles of risk management? How to quantify the risk? (12%)

III. According to the latest standards & guideline publication of Project Management Institute (PMI), what are the 9 knowledge areas (functions) of project management? (18%)

IV. What are the advantages of using BOT to deliver a constructed project from governmental point of view? (14%)

V. What is Construction Management? How do you define it? (8%)

VI. What are the differences among the following type of contracts (12%)?

1. Lum-Sum
2. Unit Price
3. Cost Plus
4. Guaranteed Maximum Price

VII. CPM & PERT (8%)

1. In general, when we use PERT, we have three duration estimates for each activity.  
\_\_\_\_\_ True                          \_\_\_\_\_ False
2. The three estimated durations for each activity in Program Evaluation Review Technique (PERT) are: a) Optimistic duration, b) Pessimistic duration, and c) Most likely duration.  
\_\_\_\_\_ True                          \_\_\_\_\_ False
3. While using PERT, the Standard Deviation for each activity is equal to:  
(Pessimistic duration – Optimistic duration) ÷ 6  
\_\_\_\_\_ True                          \_\_\_\_\_ False
4. The full name of CPM is
  - a. Constructive Productivity Measure
  - b. Critical Path Method
  - c. Critical Pass Method
  - d. Creative Performance Method