King Mongkut's University of Technology Thonburi

Midterm Examination

Semester 1 Academic Year 2017

CVE 415 Construction Management	4th Year International Program in Civil Engineering
Date : 26 September 2017	Time : 13:00 – 16:00 PM

Instructions

1. Write your name on every page of this examination paper.
   20 points penalty if any sheet is missing.
2. There are 4 questions with total score 100 points. Attempt all questions.
3. Write your answer on provided space. If the provided space is not enough, continue writing on the back of sheets.
4. Closed book; calculator is allowed; and work independently.

Dr. Pitch Sutheerawatthana

02-470-9151

This examination paper has been approved by the Department of Civil Engineering

Associate Professor Dr.Sutat Leelataviwat

Head of the Civil Engineering Department

Student Name: _____

Student ID: _____

Midterm Examination

CVE415 Construction Management

Mid-term Examination
Construction Management (CVE 415)
KMUTT 2017

100 minutes, Score: /100

INSTRUCTIONS :

1. Write your name on every page of this examination paper.

   20 points penalty if any sheet is missing.

2. Total score is 100 points. 4 Questions. Attempt all questions.

3. Write your answer on provided space. If the provided space is not enough, continue writing on the back of sheets.

4. Calculator is allowed

5. Closed book, any dictionary is NOT allowed, and work independently.

*** *** ***

1. [25 points] Suppose that you are working as a site engineer and your boss assigns you to supervise 2 piling-subcontractors in a housing construction project. What information do you need to know or have in your hands before you can start supervising them so that the work can achieve good time, cost and quality?

2. [25 points] Please identify 20 risks in a high-rise building construction project (30 floors). Your project is located in downtown of Bangkok. Also describe the reason why you think that they are risks.

3. [25 points] Given

Events	$P(S_i)$	Alternatives of Wall Materials			
		D_1	D_2	D_3	D_4
S_1 : Material Price Increase	0.45	100,000	80,000	120,000	40,000
S_2 : Material Price Decrease	0.25	350,000	450,000	450,000	500,000
S_3 : No change in Price	0.30	180,000	250,000	150,000	300,000

Unit: Baht

The number in the table is estimated profit of each alternative.

    a) Make a decision under Optimistic Approach

    b) Make a decision under Conservative Approach

    c) Make a decision under Minimax Regret Approach

    d) Make a decision under Least Difference

    e) Calculate the expected profit of the alternatives.

Important Note: the way of calculation must be shown in your answer. Only answers themselves are not accepted.

4. [25 points] Please apply the knowledge of decision-making using Decision Tree in a situation in construction industry. Do **not** use the similar examples in lecture handouts, quiz-questions and homework assignments.

In your explanation, please write and illustrate at least below details.
1. Explanation of situation
2. What are decision alternatives?
3. What are possible future events?
4. Draw a decision tree.
5. Apply the concept of sensitivity analysis to the situation.
6. Explain why the knowledge of decision-making using Decision Tree can be applied to the situation.

Note: you can propose any assumptions as far as it is well related to your explanation.