

College of Industrial Technology  
King Mongkut's University of Technology North Bangkok

Final Examination of Semester 1

Year: 2016

Subject: 341131 Electrical Drawing I

Section: 5-6

Date: 8 December 2016

Time: 10.00-12.00

Name..... ID..... Class.....

**Instructions**

1. Cheating in the exam is considered an extremely serious offence which will result in expulsion from the University.
2. No documents are allowed to be taken out of the examination room.
3. Textbook, calculator and dictionary are NOT allowed.
4. No any electronic communication devices are allowed in the exam room.
5. The examination has 7 pages (including this page), 1 problem and a total score of 40 points.
6. Write all your answers on the answer sheet.

You are not allowed to leave the exam room during the first  
one hour and 30 minutes after the beginning of the exam.

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You are not allowed to use the restroom during the exam  
except in case of an emergency.

1. The first floor and second floor plans are shown in Figure 1 and Figure 2, respectively. Please design the lighting and plug socket circuits, then draw the one line diagrams and the control diagrams of all circuits of these floor plans. (40 points)

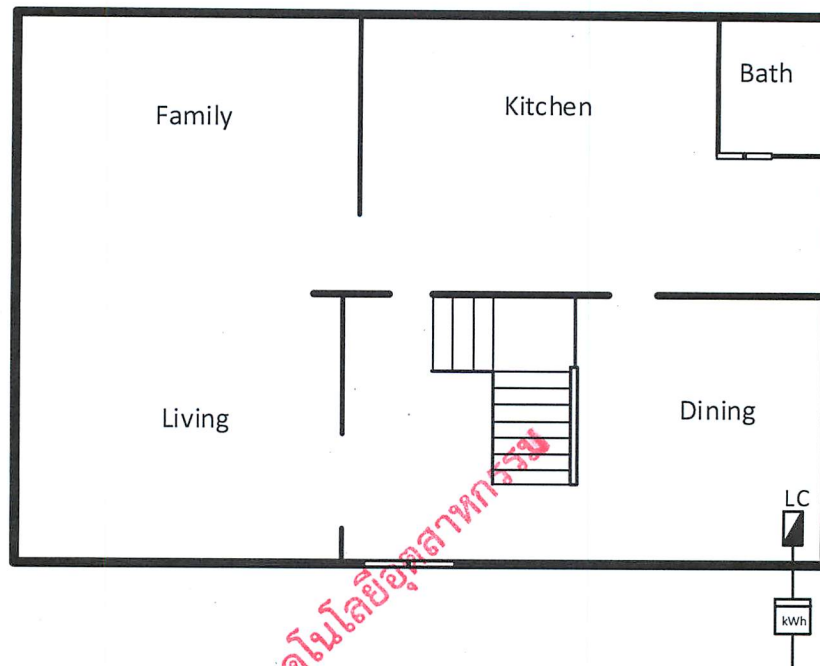


Figure 1: First Floor Plan

The first floor plan is as follows

- S1 controls L1 and L2, represented by 1LC.
- S2 controls E1 and E2, represented by 2LC.
- S3 controls E3, represented by 2LC.
- S4 controls L3 and L4, represented by 3LC.
- S5 controls E4 and E5, represented by 4LC.
- S6 (on 1<sup>st</sup> floor) and S7 (on 2<sup>nd</sup> floor) control E6, represented by 5LC.
- 4 plug sockets are installed and represented by 6LC.

Symbol of One Line Diagram	1 <sup>st</sup> Floor Room
	E1-E6
	L1-L4
	S1-S3
	S4-S5
	S6

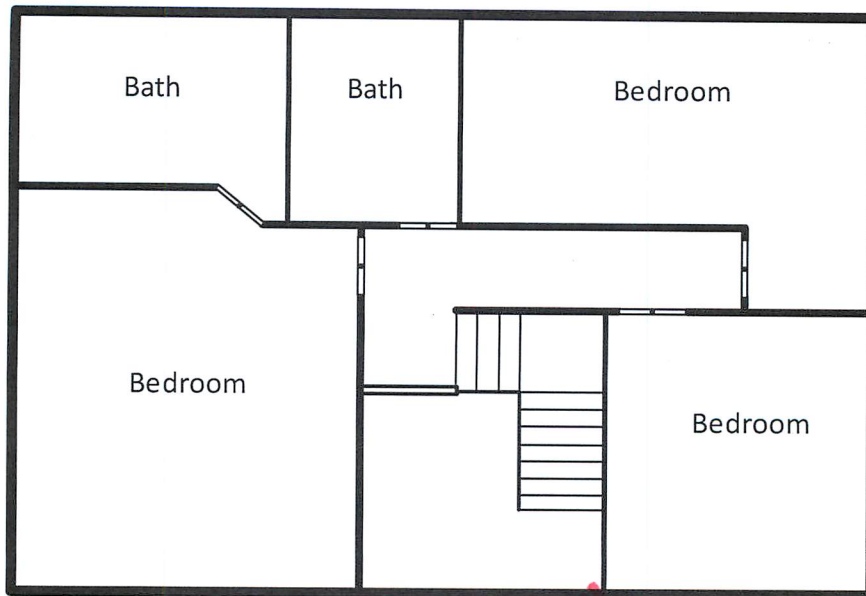


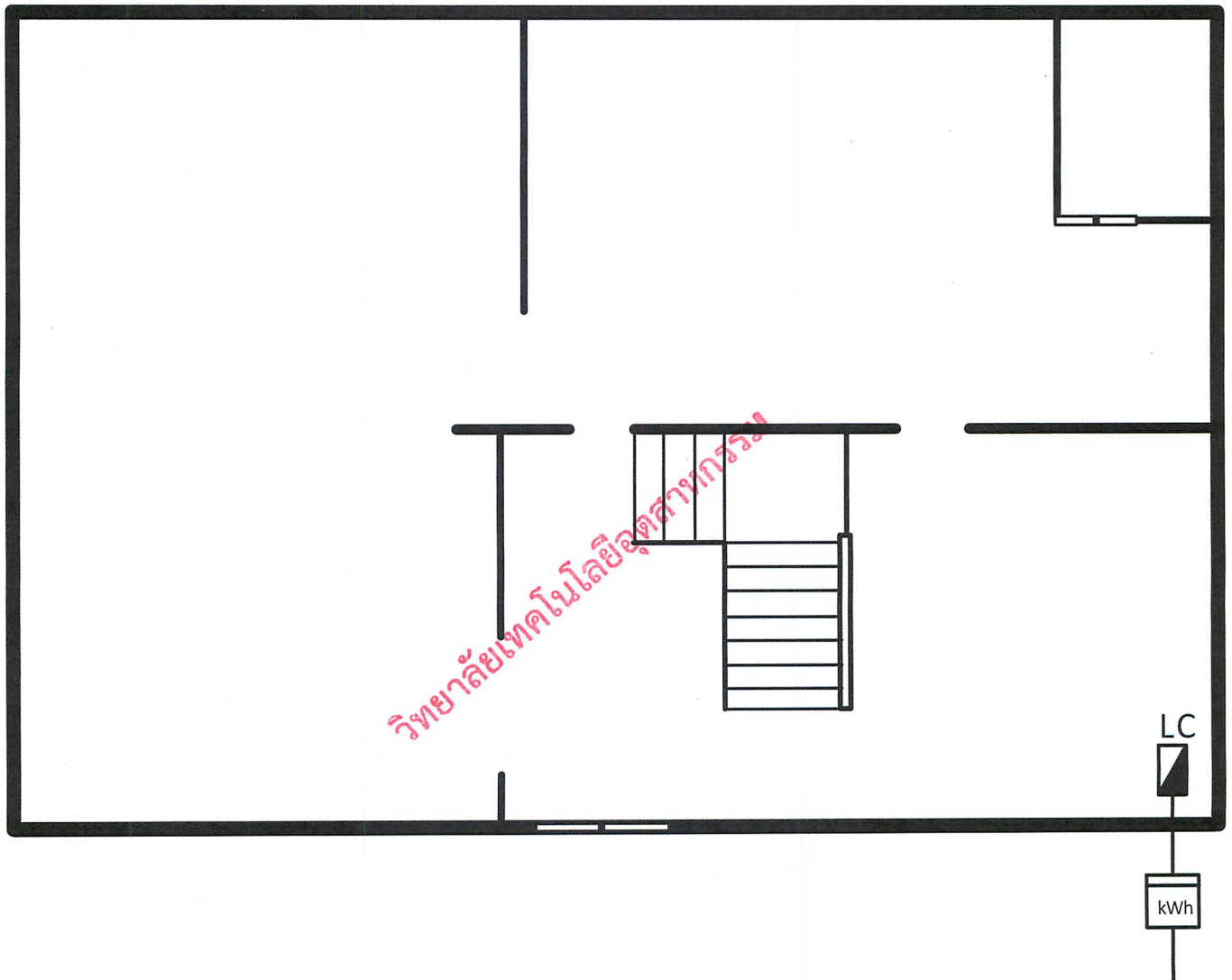
Figure 2: Second Floor Plan

The second floor plan is as follows.

- S8 controls L5, represented by 7LC.
- S9 controls E7, represented by 7LC.
- S10 controls E8 and E9, represented by 8LC.
- S11 controls E10, represented by 8LC.
- S12 controls E11, represented by 9LC.
- S13 controls E12, represented by 9LC.
- S14 controls E13 and E14, represented by 10LC.
- 3 plug sockets are installed and represented by 11LC.

Symbol of One Line Diagram	2 <sup>nd</sup> Floor Room
	E7-E14
	L5
	S8-S13
	S14
	S7

One Line Diagram of the 1<sup>st</sup> Floor Plan (10 points)



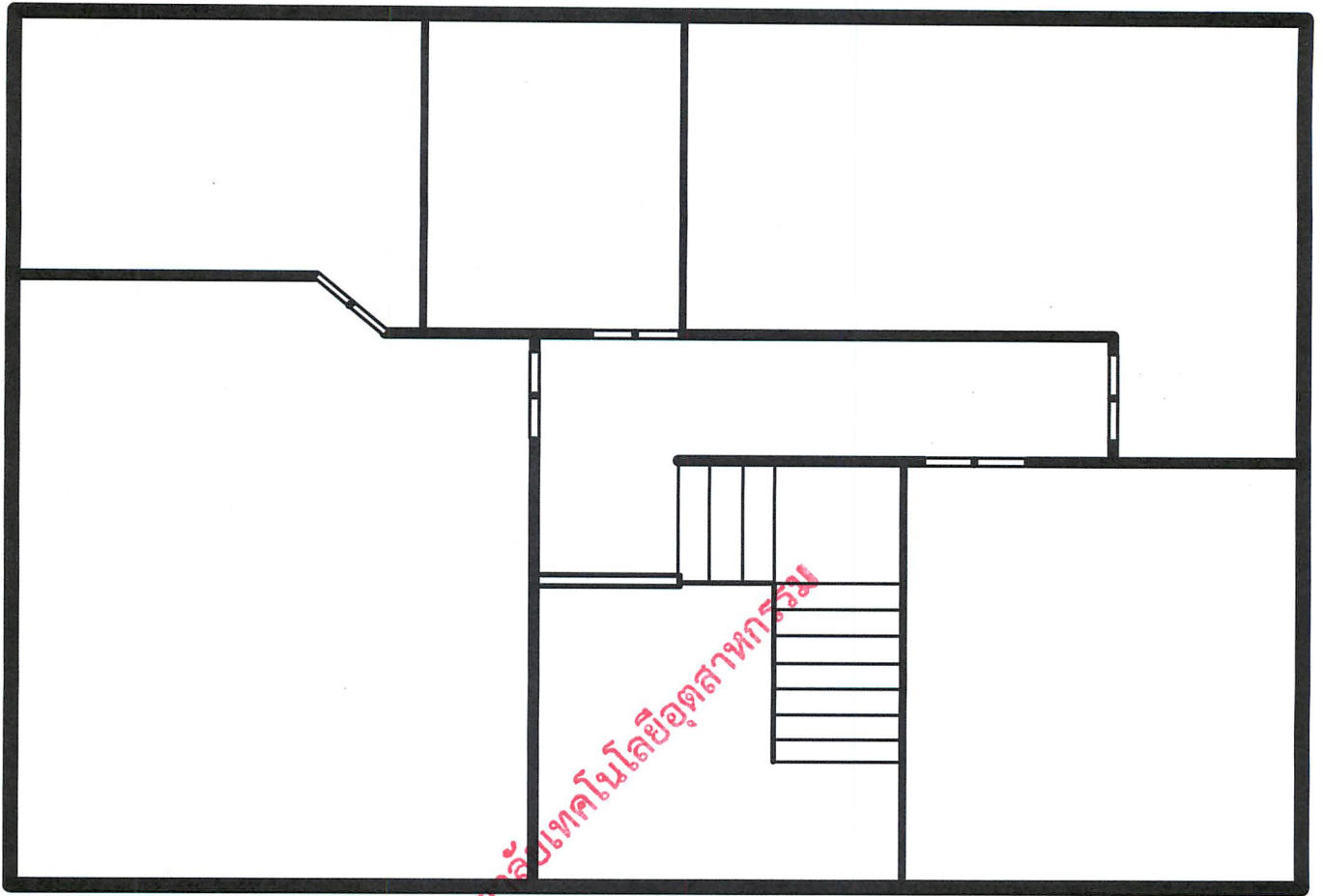
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Student ID:	No.		#1-1

Control Diagram of the 1<sup>st</sup> Floor Plan (10 points)

วิทยาลัยเทคโนโลยีอุตสาหกรรม

Name:	EP:	Score:	Final Exam #1-2
Student ID:	No.		

One Line Diagram of the 2<sup>nd</sup> Floor Plan (10 points)



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Student ID:	No.		

Control Diagram of the 2<sup>nd</sup> Floor Plan (10 points)

วิทยาลัยเทคโนโลยีอุตสาหกรรม

Name:	EP:	Score:	Final Exam #1-4
Student ID:	No.		