

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

Seat No.

Final Examination of Semester 1
Subject: 341131 Electrical Drawing I
Date: 4 November 2020

Year: 2020
Section: 5-6
Time: 08.00-10.00

Name: _____ ID: _____ Class: _____

Directions: The test is designed to measure your comprehension. The test is divided into 1 section. There will be 7 pages (including this page) and they are worth 40 points.

- This exam paper contains no errors. If a suspected error is found, it is the student's discretion to correct it.
- Answer the questions on the answer sheet.
- Books, documents and lecture notes are not allowed.
- You must be in the room for one hour after the exam is started and, while taking the exam, you cannot go out except in an emergency case.
- Before leaving, make sure you do not bring this test outside.
- Do not use any electronic communication device.
- Calculators cannot be used in this test.

Now begin the test.

Cheating in the exam is considered an extremely serious offence which will result in expulsion from the University.

1. The plan of 2 floor apartment is shown below. Please design the circuits, then complete one-line and control diagrams of both floors. (40 points)





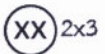




The first floor plan is as follows.

- S1 controls E1 and E2 with parallel connection, represented by 1LC.
- S2 controls E3 and E4 with series connection, represented by 1LC.
- S3 controls L1 and L2, represented by 1LC.
- S4 controls E5 and E6, represented by 2LC.
- S5 controls E7, represented by 2LC.
- S6 and S7 control E8, represented by 3LC.
- S8 (on 1st floor) and S9 (on 2nd floor) control E9, represented by 3LC.
- 3 plug sockets are installed and represented by 4LC.

Symbol of One Line Diagram	1 st Floor Room
	E1-E6
	E7
	E8
	E9
	L1-L2
	S1-S2
	S3-S5
	S6-S9

The second floor plan is as follows.

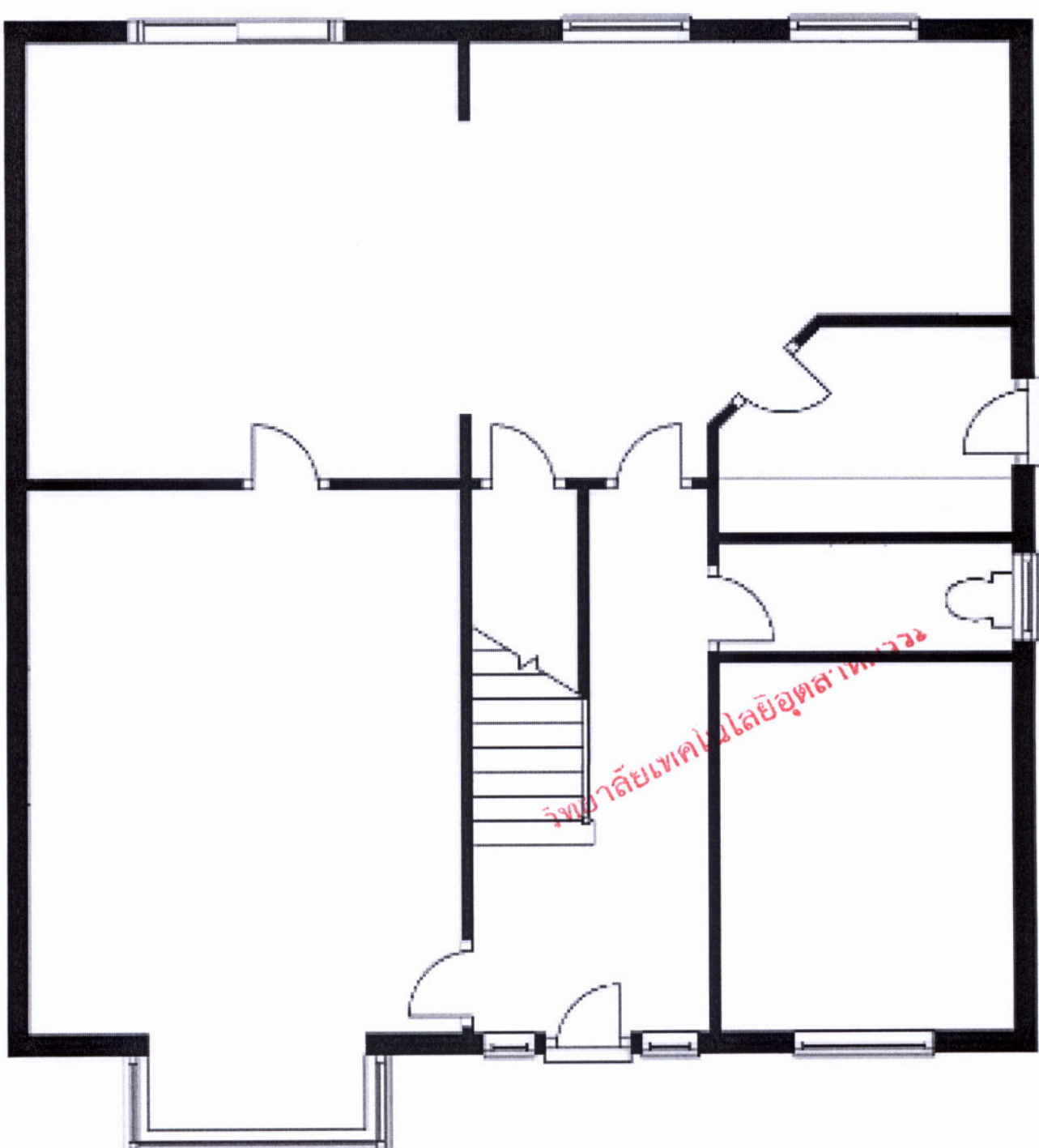
- S10 controls E10, E11 and E12, represented by 5LC.
- S11 controls E13, represented by 5LC.
- S12 controls E14 and E15, represented by 5LC.
- S13 controls E16 and E17, represented by 6LC.
- S14 controls E18 and E19, represented by 6LC.
- S15 and S16 controls L3 and L4 with series connection, represented by 7LC.
- 3 plug sockets are installed and represented by 8LC.

Symbol of One Line Diagram	2 nd Floor Room
	E10-E15
	E16-E17
	E18-E19
	L3-L4
	S10-S11
	S12-S14
	S15-S16

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Assoc.Prof.Dr.Rattanakron Phadungthin
Asst.Prof.Dr.Pinanta Chatwattana

One Line Diagram of the 1st Floor Plan (10 points)

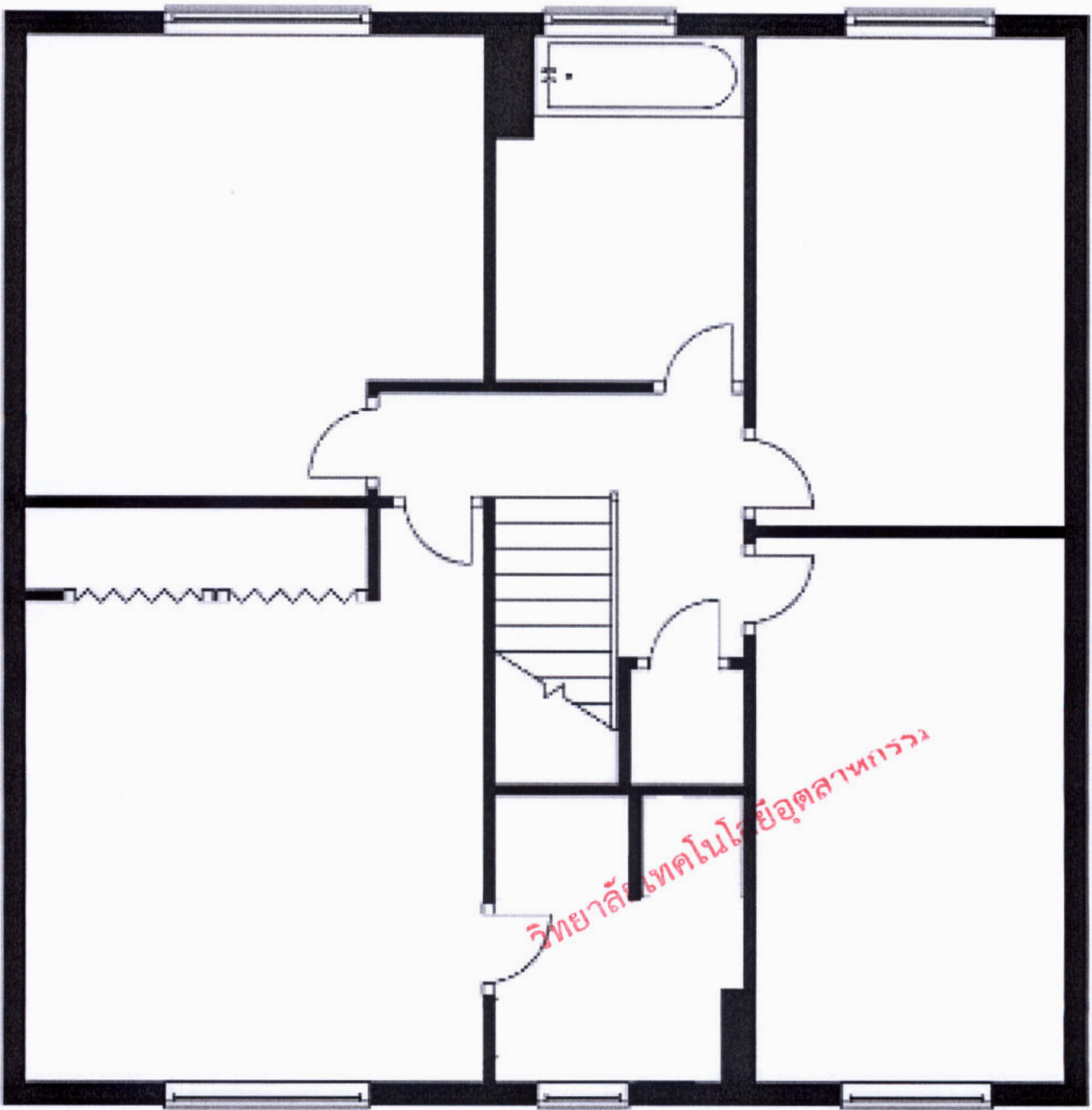
			
Name:	EP:	Score:	Final Exam #1-1
Student ID:	No.		

Control Diagram of the 1st Floor Plan (10 points)

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

One Line Diagram of the 2nd Floor Plan (10 points)



Name:	EP:	Score:	Final Exam #1-3
Student ID:	No.		

Control Diagram of the 2nd Floor Plan (10 points)

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