

National University of Computer and Emerging Sciences, Lahore Campus



Course:	DLD Lab	Course Code:	EL227
Program:	BS (Computer Science)	Semester:	Spring 2017
Duration:	50 minutes	Total Marks:	50
Date	26-03-18	Weight	25%
Section:	B2 (A)	Pages:	2

Mid Term Exam

NAME: _____

Roll #: _____

READ THE INSTRUCTIONS CAREFULLY.

1. Final Submissions should be done in your respective section folder on **sandata/xeon/Spring2018/AbdulKhaliq/DLDSectionB2/MidSubmission**.
2. LogicWorks File must be renamed after your roll number e.g., **"17L-4125"**. Multiple submissions are not allowed (if done, only first one will be considered).
3. For your ease, Pin Configurations of all ICs is given in word file named **"ICs Info"** placed in folder at **sandata/xeon/Spring2018/AbdulKhaliq/DLDSectionB2**.
4. You will be immediately **disqualified** from the exam if:
 - i. You are seen talking, whispering, borrowing or looking at someone's Paper.

Problem Statement: Implement the following Boolean functions using 3x8 Decoder and external gates.

$$\begin{aligned}F1 &= y'z + xz \\F2 &= xy'z' + x'y + x'y(z + z')\end{aligned}$$

- a. Draw the truth table for above problem statement.

[10 Point]

A	B	C	F1	F2
0	0	0		

0	0	1		
0	1	0		
0	1	1		
1	0	0		
1	0	1		
1	1	0		
1	1	1		

- b. Implement the complete circuit on LogicWorks Tool using 3x8 Decoder and 2-input external gates. **(Note: Use as minimum no. of logic gates as possible)** **[15 Points]**
- c. Implement the circuit of part (b) on the trainer board and verify the results. **(Note: Use as minimum no. of logic gates as possible)** **[25 Points]**