National University of Computer and Emerging Sciences, Lahore Campus

Course:	Digital Logic Design Lab	Course Code:	EL227
Program:	BS (Computer Science)	Semester:	Spring 2018
Duration:	20+20 mins	Total Marks:	15
Date	05-03-18	Weight	5%
Section:	D-2	Pages:	2

Quiz#1

Question # 1

A	B	C	T_1	T_2
0	0	0	1	0
0	0	1	1	0
0	1	0	1	0
0	1	1	0	1
1	0	0	0	1
1	0	1	0	1
1	1	0	0	1
1	1	1	0	1

a. Write Equation of Functions in SOP Form i-e as Sum of Min-terms Form (algebraic expression):

T1 (A, B, C) =

_____

T2 (A, B, C) =

_____

b. Write Equation of Majority Function in POS Form i-e as Product of Maxterms Form (algebraic expression):

T1 (A, B, C) =

_____

T2 (A, B, C) =

_____

c. Implement the complete circuit diagram (including T1 and T2) of SOP form on LogicWorks and verify the outputs using timing diagrams.
Note: Use 2-input Logic Gates only

d. Implement the complete circuit diagram (including T1 and T2) of POS form on LogicWorks and verify the outputs using timing diagrams.
Note: Use 2-input Logic Gates only

e. Apply K-Map on equations of T1 (both SOP and POS) in order to minimize equations to the minimum number literals.

f. Apply K-Map on equations of T2 (both SOP and POS) in order to minimize equations to the minimum number literals.