

National University of Computer and Emerging Sciences, Lahore Campus



Course:	Digital Logic Design	Course Code:	EE-227
Program:	BS (Computer Science)	Semester:	Spring 2021
Duration:	20 Minutes	Total Marks:	10
Paper Date:	17-June-2021	Weight	3 %
Section:	B	Page(s):	2
Exam:	Quiz 2	Reg. No.	

Instruction/Notes: Calculators are strictly not allowed in all exams
Plagiarism will be dealt seriously causing an F in course

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1. A combinational circuit is defined by the following three Boolean functions:

$$F1 = \overline{X} + \overline{Z} + XYZ$$

$$F2 = \overline{X}YZ + \overline{X} + \overline{Z}$$

$$F3 = X\overline{Y}Z + \overline{X} + \overline{Z}$$

Design the circuit with a decoder and external OR gates.

2. Design a 16-to-1-line multiplexer using a 4-to-16-line decoder and a 16 x 2 AND-OR.