	Course:	Digital Logic Design	Course Code:	EE-227
	Program:	BS (Computer Science)	Semester:	Spring 2021
	Duration:	20 Minutes	Total Marks:	15
	Paper Date:	15-June-2021	Weight	3 %
	Section:	B	Page(s):	2
	Exam:	Quiz 1	Reg. No.	

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

1- **In an 8 bit number system, solve $(21)_8$ * $(6)_{10}$ = ( )$_{16}$**

2- **Prove the identity** $Y + \bar{X}Z + X\bar{Y} = X + Y + Z$

3- **Optimize the following expressions** $F(A, B, C, D) = \Pi M(0, 2, 6, 7, 8, 9, 10, 12, 14, 15)$

Sum-of-products =

Product of-sums forms=

Use only given **K-Maps** to optimize the function into:

(i) Product of Sums (POS) form

AB \ CD	00	01	11	10
00				
01				
11				
10				

F(A,B,C,D) = _____

(ii) Sum of Products (SOP) form

AB \ CD	00	01	11	10
00				
01				
11				
10				

F(A,B,C,D) = _____