Fomenky's

UNIVERSITY OF BUEA	**COLLEGE OF TECHNOLOGY**
	SECOND SEMESTER EXAMINATIONS
MONTH: August	**COURSE INSTRUCTORS:** TCHINDA, NJITACKE, MEGAM, ATEUFACK
TIME ALLOWED: 2h	**COURSE CODE:** EEC 302
DATE: 06 Aug. 2020	**COURSE TITLE:** Digital Electronic Laboratory

DESIGN AND IMPLEMENTATION OF a 2 – bit MAGNITUDE COMPARATOR

THEORY:

Comparing two numbers is an operation which aims to determines if one number is greater than, less than (or) equal to the other number. A magnitude comparator is a combinational circuit that compares two numbers A and B and determine their relative magnitude. The outcome of the comparator is specified by two binary variables that indicate whether A>B, A=B (or) A<B.

Table 1. Truth table of the comparator

A1	A0	B1	B0	A > B	A = B	A < B
0	0	0	0			
0	0	0	1			
0	0	1	0			
0	0	1	1			
0	1	0	0			
0	1	0	1			
0	1	1	0			
0	1	1	1			
1	0	0	0			
1	0	0	1			
1	0	1	0			
1	0	1	1			
1	1	0	0			
1	1	0	1			
1	1	1	0			
1	1	1	1			

Components Required : IC 7404, IC 4030, IC 4081, IC 4071, IC 4073, resistor, Leds, logictoggle.

1- Give the aim of this experiment.
2- Realize the diagram of Figure 1 in Proteus Software.
3- Using proteus simulation, fill Table 1
4- Draw the Karnaugh-map (K-map) of each output obtained in Table1
5- Write the logic equation of the following output:
   a- A=B
   b- A>B
   c- A<B