Slot – F2

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SCHOOL OF ELECTRICAL ENGINEERING

Continuous Assessment Test - II, October 2016

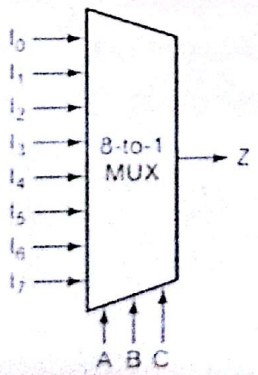
B.Tech. (CSE\IT\ME\CE\BT), Fall Semester 2016

Course Code : EEE1001 Duration : 90 Minutes.
Course Name : Basic Electrical and Electronics Engg. Max. Marks : 50

Answer all the questions.

1 A series combination of 3 ohm resistance and 600μF capacitor in each branch forms a three phase star connected balanced load which is connected to a 440V, 3 Phase, 50Hz ac supply. Calculate (i) Power consumed (ii) Current drawn. If the same load is now connected as a delta, determine (i) The power consumed (ii) current drawn (iii) Give your inference on the power consumed in both the cases [10]

2 Design a multiplexer for the truth table given below [10]



A	B	C	Z
0	0	0	I_0
0	0	1	I_1
0	1	0	I_3
0	1	1	I_5
1	0	0	I_7
1	0	1	I_2
1	1	0	I_4
1	1	1	I_6

3 Design an alarm system consisting of four Switches S_1, S_2, S_3, S_4. The alarm (A) should sound if the switch S_1 is off & S_2 is on, or if S_1, S_2, S_3 is on & S_4 is off. From the truth table, obtain the minimal Boolean expression using K-Map and design the logic circuit with reduced expression [10]

4 Design a logic circuit which receives four bit binary number and gives out an output whenever the number is divisible by 3 or 4 [10]

5 a Design a circuit to add three bit numbers with two circuits adding two bit numbers [7]

b Convert the following numbers into binary [3]

(i) $AE.12_{16}$ (ii) 67.125_{8} (iii) 10.826_{10}