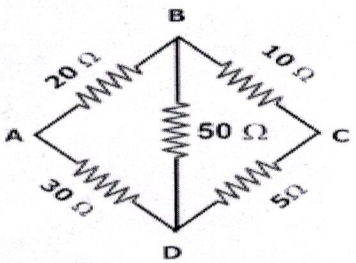
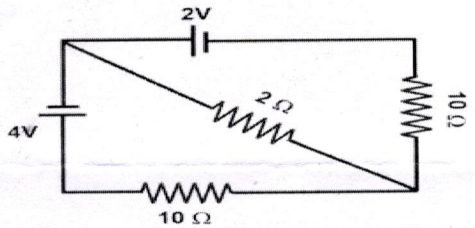
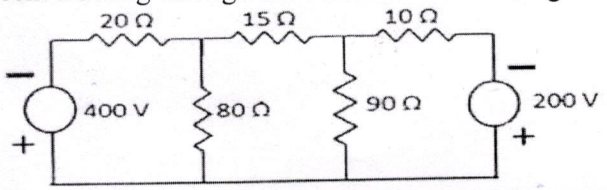
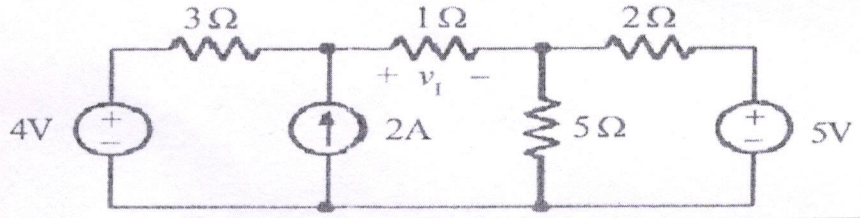
AUTUMN MID-SEMESTER EXAMINATION-2022
School of Electrical Engineering
Kalinga Institute of Industrial Technology

1st Semester

Subject: Basic Electrical Engineering (EE 10002)

Time: 1.5 hours **Full Marks: 20**

Answer any FOUR questions including question No.1 which is compulsory.
The figures in the right-hand side indicate full marks.
All parts of a question should be answered at one place only.

Question No	Question	CO Mapping	Marks
Q1.	Answer the following questions.		[1x5]
a	Define Active and Passive elements.	1	
b	Define Frequency. Time period and Phase of an AC sinusoidal waveform.	2	
c	If 3 resistances of each 10 Ω are connected in delta. Find the corresponding star resistances.	1	
d	What is the rms and average value of sinusoidal waveform of amplitude of 400V?	2	
e	Define Form Factor and Peak Factor in a sinusoidal signal.	2	
Q.2	Find out the equivalent resistance across the terminal A and C using star delta transformation. 	1	[5]
Q.3	Find the current through the 2 Ohm resistance by using the Mesh Analysis. 	1	[5]
Q.4	Find the current flowing through the 15 Ω resistance using nodal analysis. 	1	[5]
Q.5	Find the current in 1 Ω resistance using superposition Theorem. 	1	[5]