VIT®

Vellore Institute of Technology
(Deemed to be University under section 3 of UGC Act, 1956)

C1 slot

SCHOOL OF ELECTRICAL ENGINEERING

CAT – I

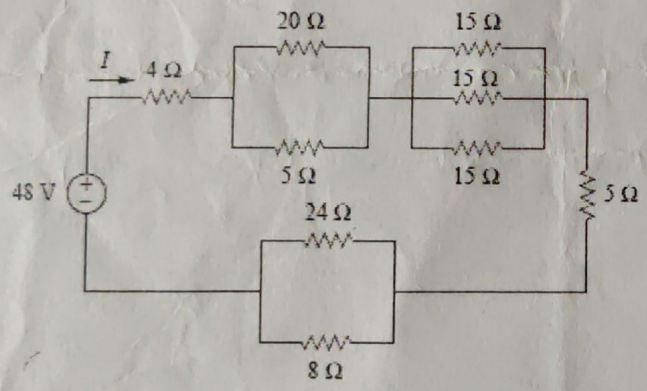
Fall Semester 2018 – 19

Class Nbrs. : 0602, 0662 & 0645

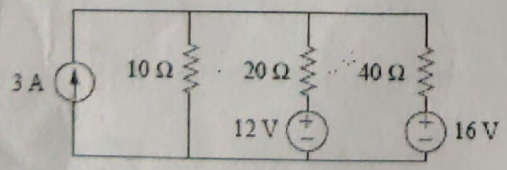
Course Code	: EEE 1001	**Date of Exam**	**: 14.08.2018**
Course Title	: Basic Electrical and Electronics Engineering	**Max. Marks**	**: 50**
Faculty	: R. M. Brisilla, R. Raja Singh, N. Arun	**Duration**	:1 ½ hours

Answer all the questions

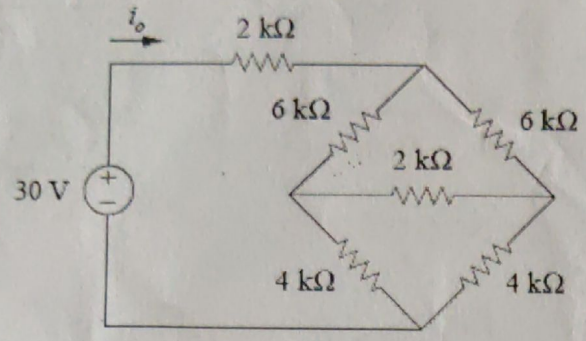
1(a). Find *I* in the following circuit. **[5]**



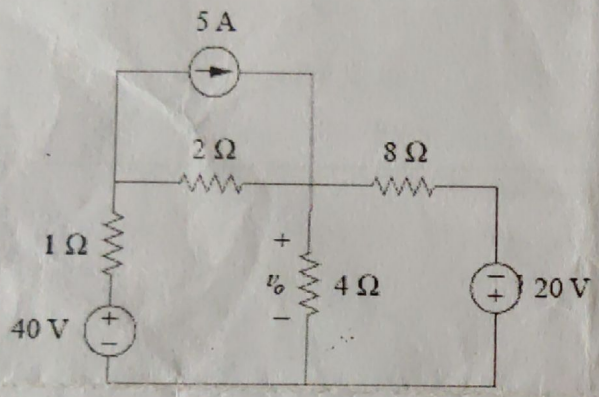
(b). Use source transformations to reduce the circuit in to a single voltage source in series with a single resistor. **[5]**



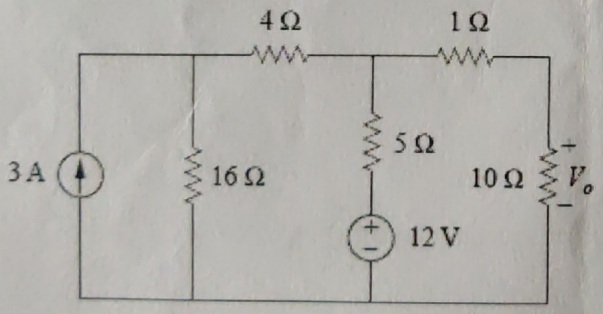
2. For the bridge network in Figure, find i_o and voltage across 2kΩ using mesh analysis **[10]**



3. Using nodal analysis, find V_o in the circuit **[10]**



4. Apply Thevenin's theorem to find V_o in the following circuit. **[10]**



5. A coil of resistance 5Ω and inductance 120mH in series with a 100μF capacitor is connected to a 300V, 50Hz supply. Calculate **[10]**

a) current flowing,

b) phase difference between the supply voltage and current,

c) voltage across the coil

d) voltage across the capacitor.