# St. Michael Polytechnic College

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**DEPT**: EEE **YEAR/SEMESTER**: II / III

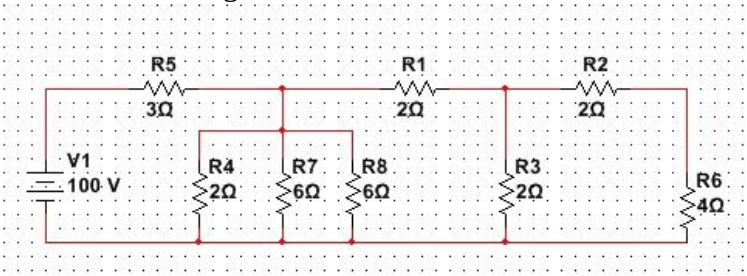
**SUB.NAME**: Electrical Circuit Theory

## PART A

1.Define energy and give the expression.
2.State ohm's law.
3.Define resistance.
4.Define temperature coefficient of resistance.
5.write the formula for equivalent resistance of three resistors connected in series.
6.Define electric field intensity.
7.Define current and mention its unit.
8.Write the relationship between voltage, charge and capacitance.
9.Write the formula for energy stored in a capacitor.
10. Write the formula for capacitance of parallel plate capacitor.

## PART B

1.Determine the current I for the given circuit.




2.A wheatstone bridge consist of a AB&BC=10 ohm, CD=4 ohm,DA=5 ohm.A galvanometer of 20 ohm resistance is connected across BD.calculate the current through the galvanometer when a p.d. of 10 volt is maintained across A.C.

3.The total capacitance of two capacitor is 0.333F when joined in series and 1.5F when connected in parrllel.find the capacitance of each capacitor.