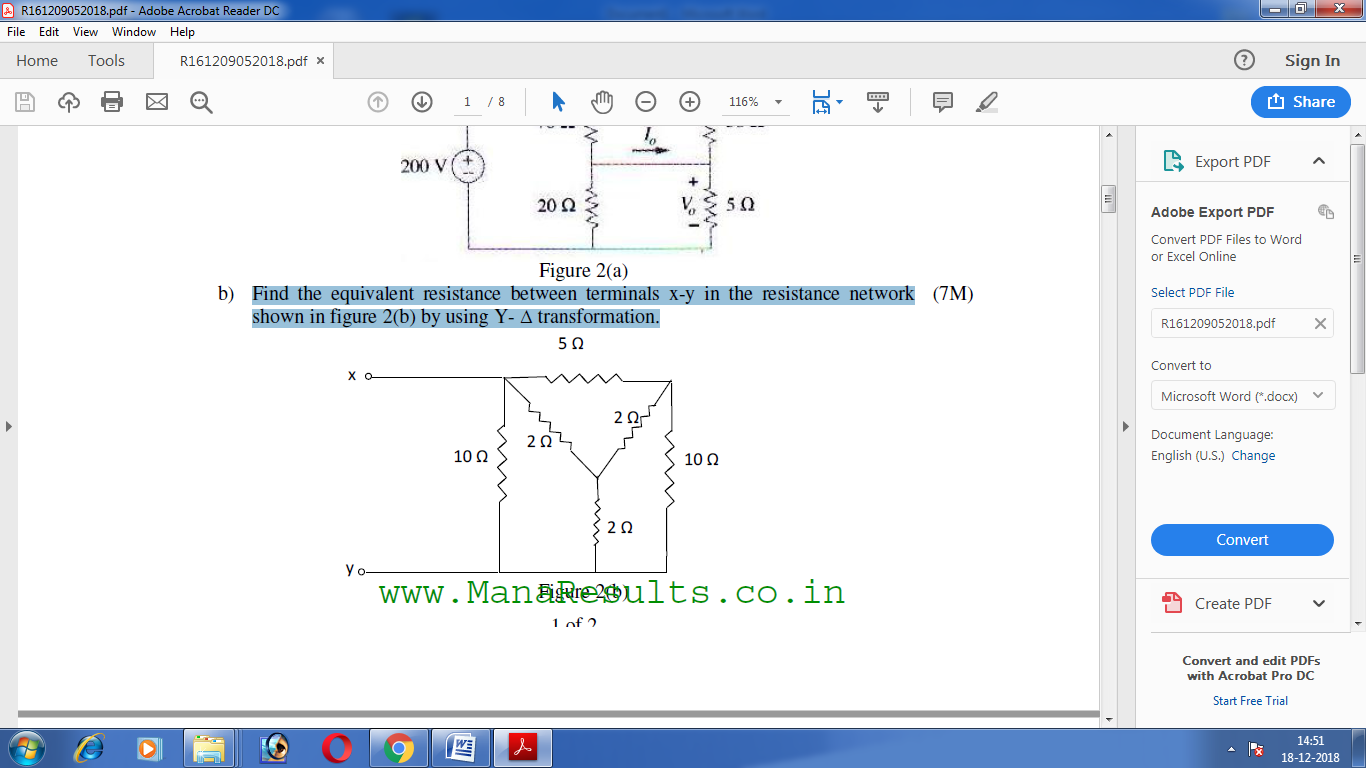
**BEEE 1-2 QUATIONS**

**UNIT-1**

1 .A) Find the equivalent resistance between terminals x-y in the resistance network

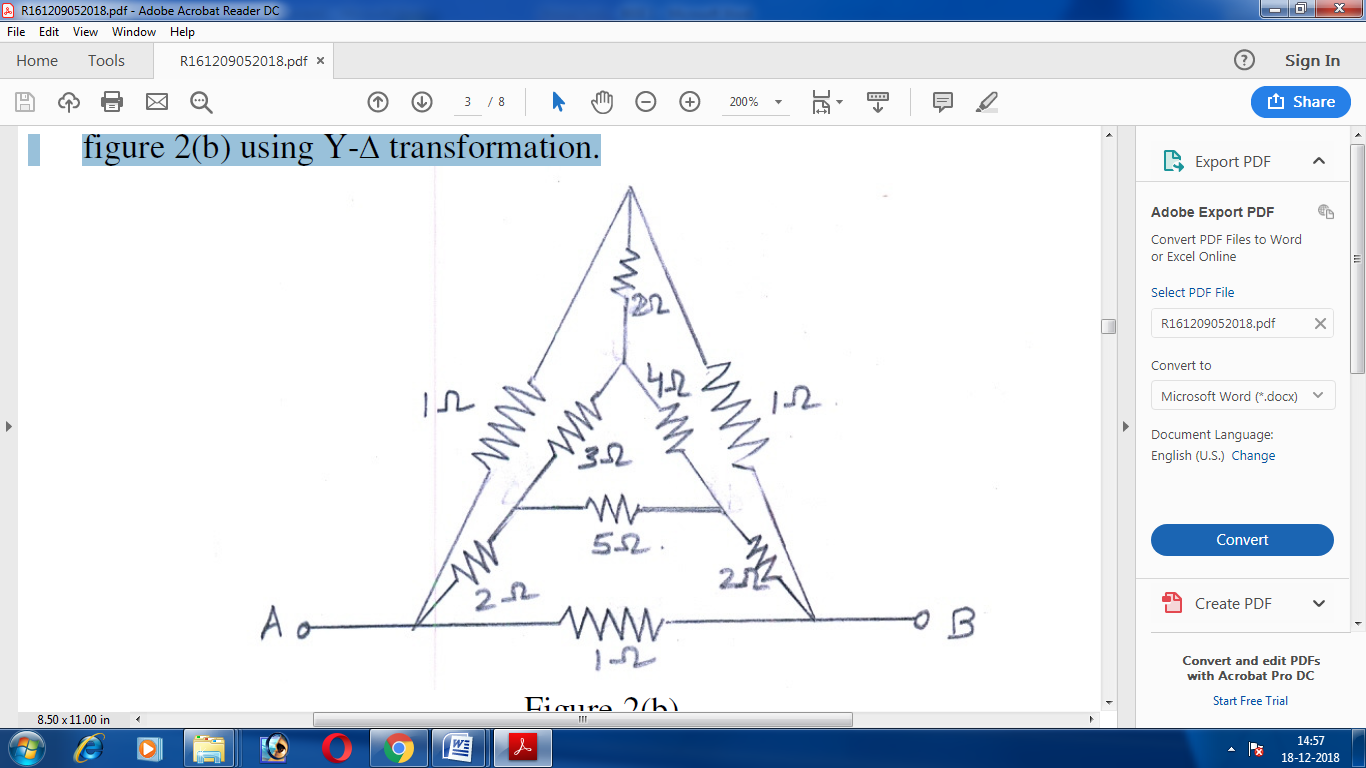
shown in figure by using Y- delta transformation.



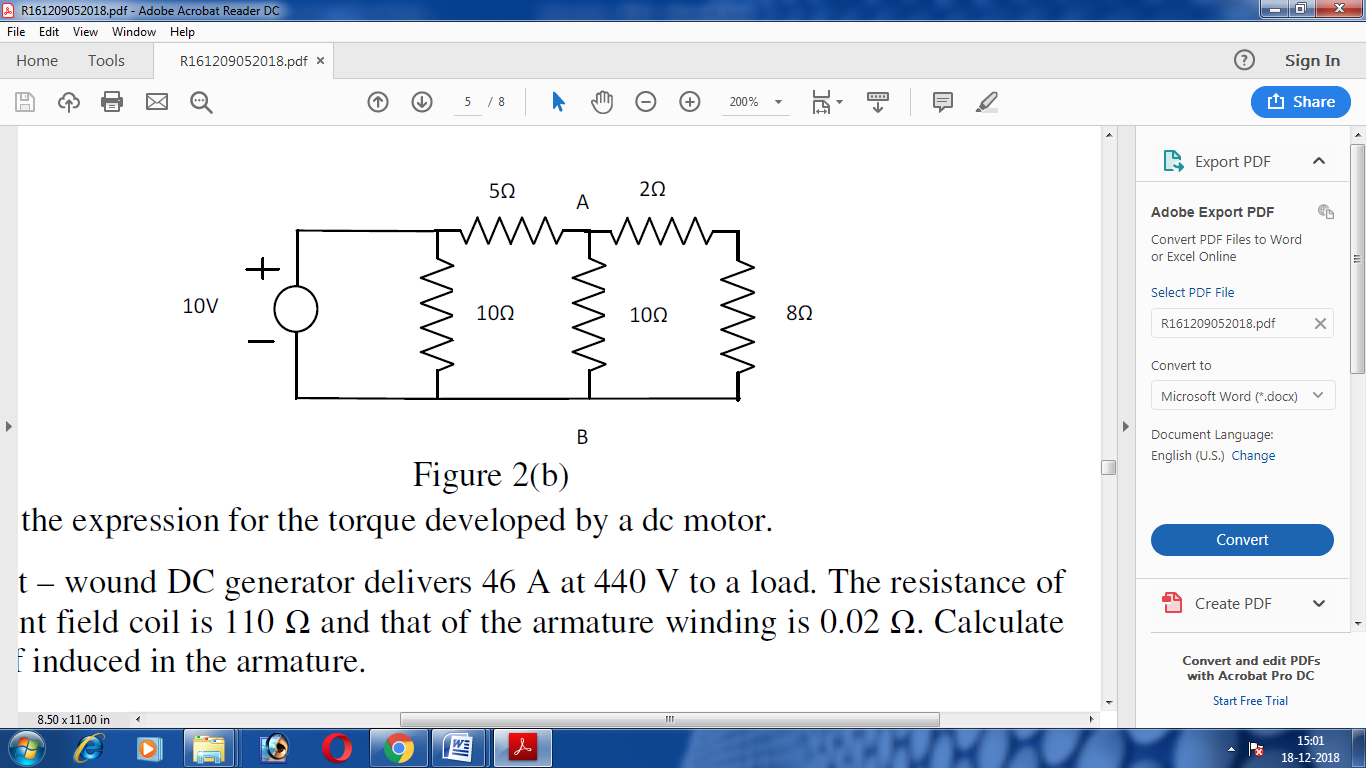
B) Classify different types of network elements.

2 Find the equivalent resistance across the terminals A & B of the network shown in

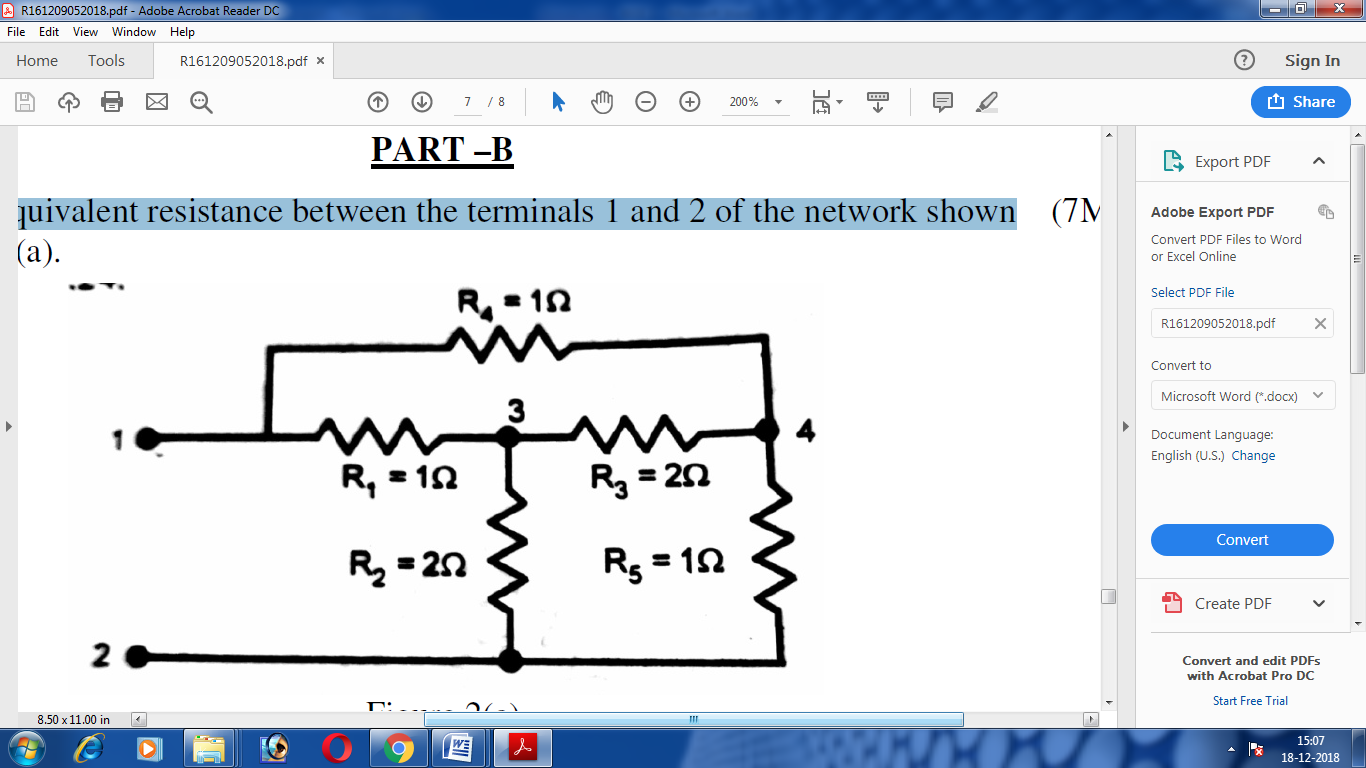
figure using Y-delta transformation.



3 In the circuit shown in figure 2(b), find the current through 8 branch.



4 Explain the construction and working principle of a single-phase transformer.



5 Draw the diagram of a 3 – point starter and explain the function of each

component.

**UNIT-2**

1 Explain the principle of operation of a dc generator and derive its emf equation.

2 a) Explain the Swinburne’s test to find the efficiency of a dc generator and a dc

motor.

b) Explain armature voltage control method of speed control of dc motor.

3 a) Obtain the expression for the torque developed by a dc motor.

b) A shunt – wound DC generator delivers 46 A at 440 V to a load. The resistance of the shunt field coil is 110 and that of the armature winding is 0.02 Calculate the emf induced in the armature.

**UNIT-3**

1. Explain the construction and working principle of a single-phase transformer.
2. Derive the emf equation of a transformer.

3 a)Describe how open-circuit and short circuit tests are performed on asingle phase transformer.

b) A single- phase, 230-V/110-V, transformer has iron loss of 100 W at 60 Hz.

Determine the hysteresis and eddy-current losses at 50 Hz.