

- (c) Same
- (d) Different.
- g) Kirchoff's current law is applicable to only (1)
 - (a) Electronic circuits
 - (b) Mechanical circuits
 - (c) Junction in a network
 - (d) Closed loops in a network.
- h) Define: Branch. (1)
- i) Write the difference between circuit and network. (1)
- j) What do meant by the Node? (1)
- k) Differentiate between mesh and loop. (1)
- l) Define active element in circuit. (1)
- m) Draw symbol of ideal current source. (1)
- n) Write three name of passive element in circuit. (1)

Attempt any four questions from Q-2 to Q-8

Q-2 Attempt all questions (14)

- a) State and explain Kirchoff current law applied to electric circuit. (7)
- b) Write short note on thevenin's theorem. (7)

Q-3 Attempt all questions (14)

- a) State and explain Norton's Theorem. (7)
- b) Determine the current I_1 , I_2 , and I_3 in the network of figure1. With using mesh analysis. (7)

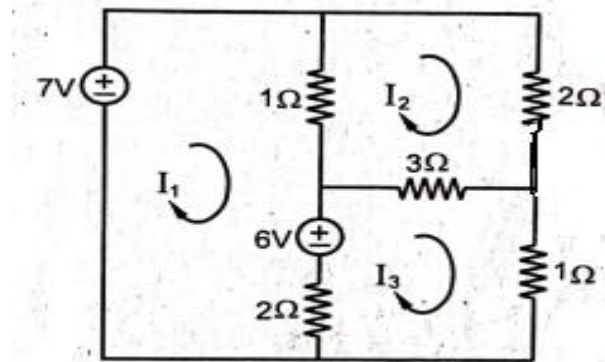


Figure 1.

Q-4 Attempt all questions (14)

- a) Write statement of superposition theorem and explain theorem with electric circuit. (7)
- b) Draw and write equation if current source and voltage source is connected in series and parallel condition with source transformation techniques. (7)

Q-5 Attempt all questions (14)

- a) State and explain Maximum power transfer Theorem. (7)
- b) Write short note on reciprocity theorem. (7)



- Q-6** **Attempt all questions** (14)
- a) Draw and explain Kirchoff's voltage law. (7)
- b) Using nodal analysis to find the voltage across the 5 ohm resistor in the network of figure 2. (7)

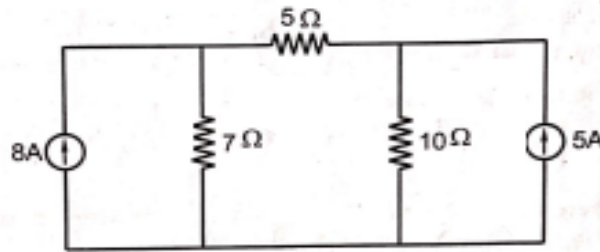


Figure 2.

- Q-7** **Attempt all questions** (14)
- a) Explain the term Initial conditions. Write the initial condition for R, L, and C also write the procedure for evaluating initial conditions. (7)
- b) Define Laplace and write transform properties of Laplace transforms. (7)
- Q-8** **Attempt all questions** (14)
- a) Write and explain relationship between Z parameters and Y parameters. (7)
- b) Explain important features of poles and zeroes of $N(s)$. (7)

