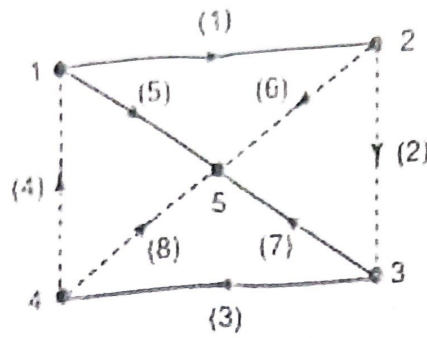




(10 Marks)

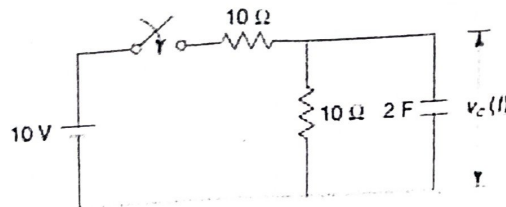
2. Write incidence matrix, tieset matrix and cutset matrix



Q3. Solve the following

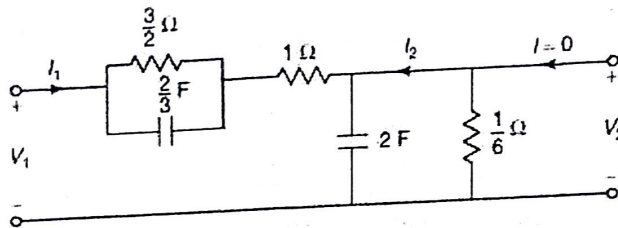
1. Find the current  $i(t)$  when the switch is changed from the position 1 to 2 at  $t = 0$ .

(10 Marks)



(10 Marks)

2. Determine the values of  $V_2/I_1$  and  $V_2/V_1$



Q4. Solve the following

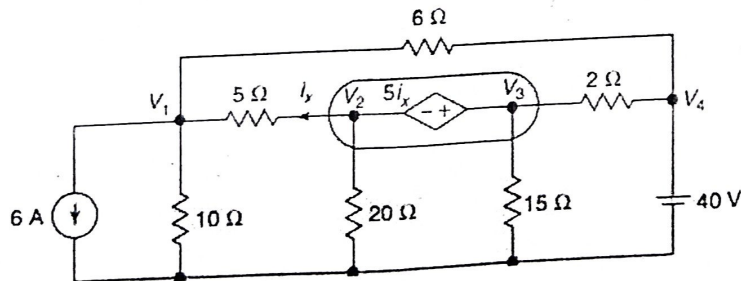
(10 Marks)

1. Realize the following function in Foster-I form.

$$Z(s) = \frac{(s+1)(s+4)}{(s+5)(s+3)}$$

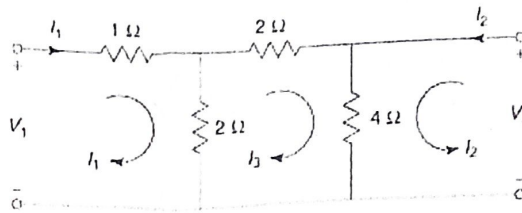
(10 Marks)

2. Find the node voltages in the network shown

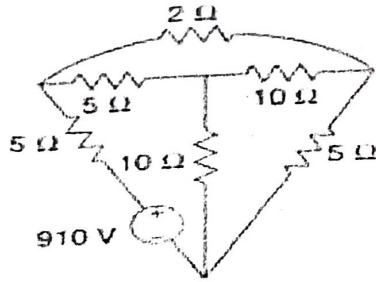


Q5. Solve the following

- Determine hybrid parameters for the network. Determine whether the network is reciprocal. (10 Marks)



- Calculate the twig voltages using KCL equation for the network shown. (10 Marks)



Q6. Solve the following

- Test whether  $F(S) = \frac{S^3 + 6S^2 + 7S + 3}{S^2 + 2S + 1}$  is positive real function. (10 Marks)
- Find Z and h-parameters for the network shown (10 Marks)

