

1. Find the equivalent resistance R_{eq} and calculate the current I in the circuit of Fig. 1. (20%)

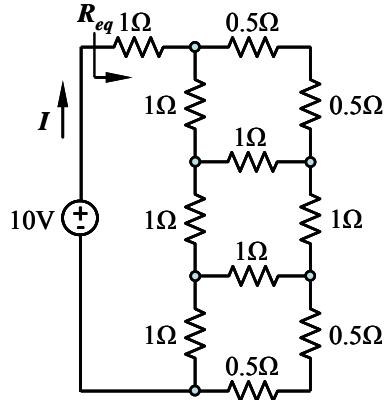


Fig. 1

2. Determine the value of R_L that will draw the maximum power from the rest of the circuit in Fig. 2 and calculate the maximum power. (20%)

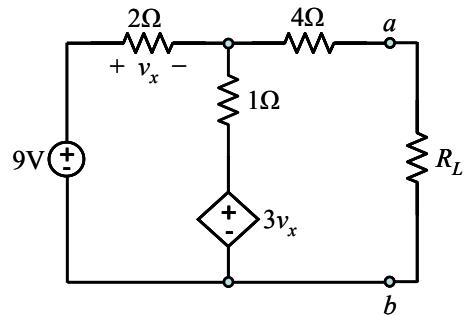


Fig. 2

3. For the circuit in Fig. 3, find i_x . (15%)

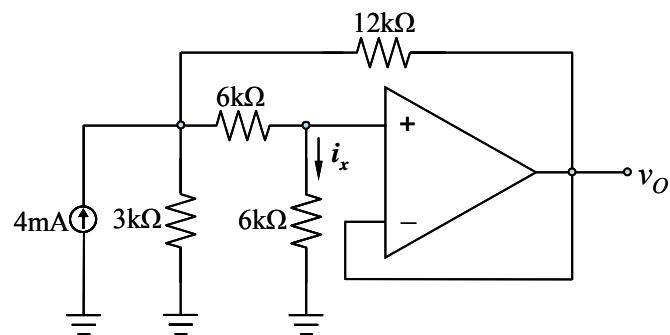


Fig. 3

4. For the three coupled coils in Fig. 4, calculate the total inductance. (15%)

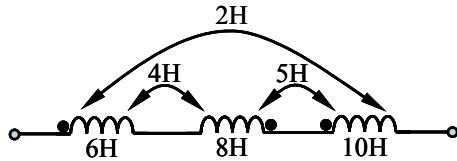


Fig. 4

5. For the circuit in Fig. 5, find V_o . (15%)

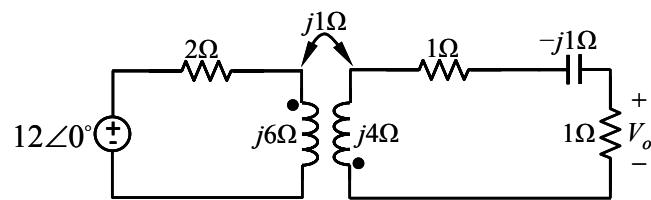


Fig. 5

6. Find $v_o(t)$ in the circuit of Fig. 6. (15%)

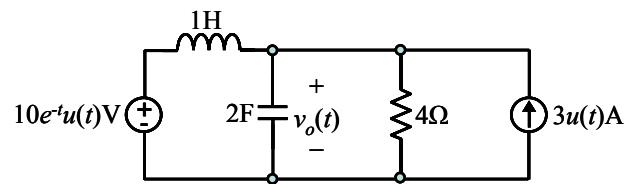


Fig. 6