

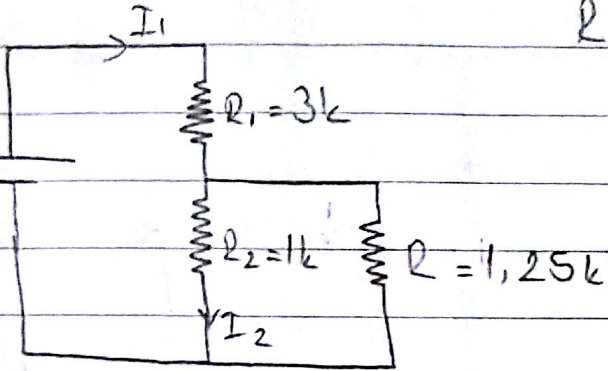
08:00

$R$  direncinden geçen akım, thevenin voltajı

09:00

48V

10:00

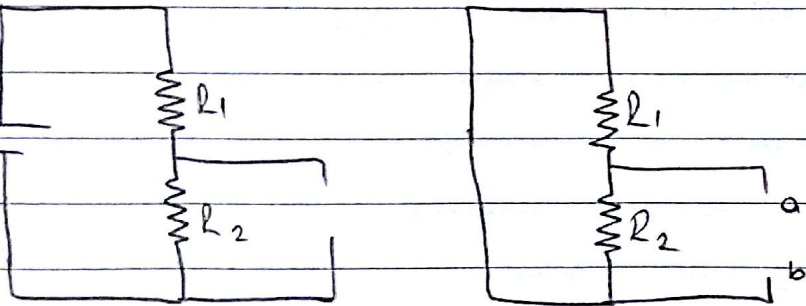


11:00

12:00

48V

13:00



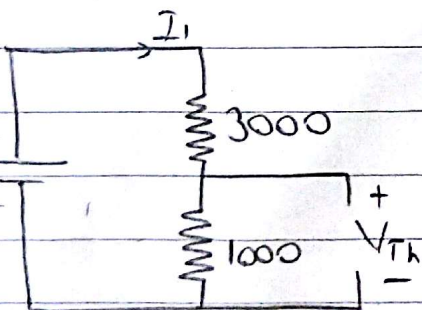
$$R_{Th} = \frac{3000 \cdot 1000}{4000} = 750\Omega$$

14:00

15:00

48V

16:00



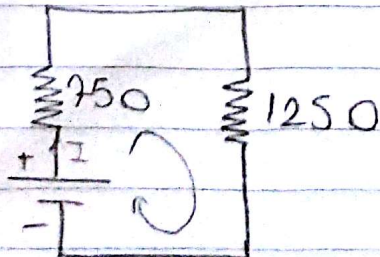
$$4000 I_1 = 48 \quad I_1 = 0,012 A$$

$$V_{Th} = 1000 \cdot 0,012 = \underline{\underline{12 V}}$$

17:00

18:00

19:00



$$2000 I = 12$$

$$I = 6 mA$$

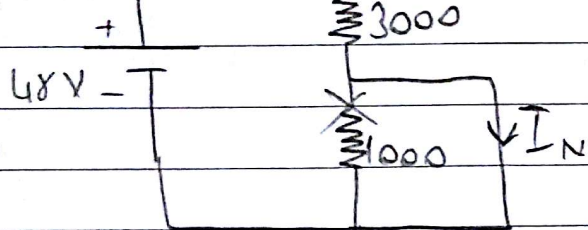
08:00

$$R_{TL} = R_N = 750 \Omega$$

09:00

$$3000 I_N = 48 \quad I_N = 16 \text{ mA}$$

10:00

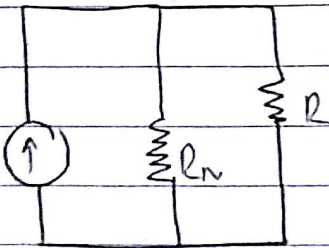


11:00

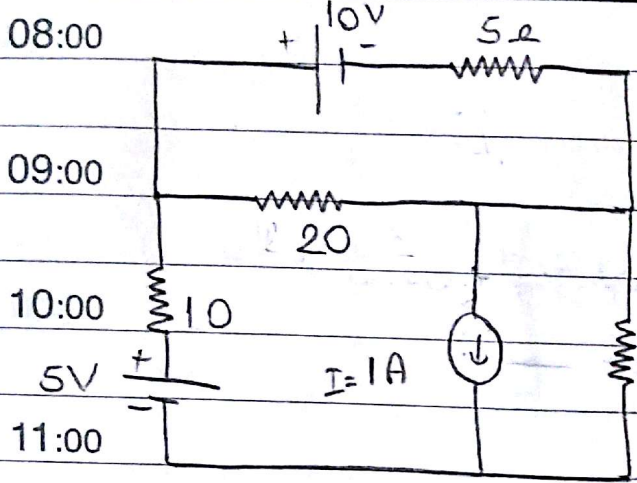
12:00

13:00

14:00 0,016

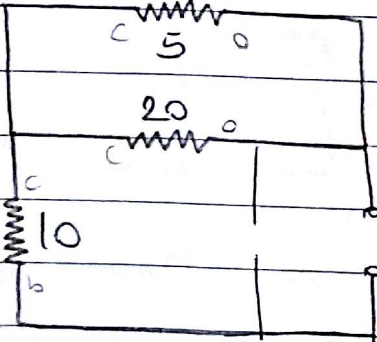


15:00



R'ynh thevenin esdeger deyrishi bul.

12:00

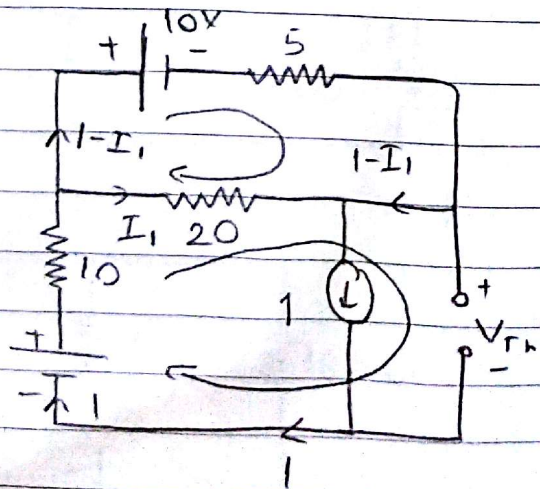


$$\frac{20 \cdot 5}{25} \quad R_{Th} = 14 \Omega$$

13:00

14:00

15:00



$$-20I_1 + 10 + 5 - 5I_1 = 0$$

$$25I_1 = 15 \quad I_1 = 0,6A$$

$$10 + 20I_1 + V_{Th} - 5 = 0$$

$$10 + 12 - 5 = -V_{Th}$$

$$V_{Th} = -17V$$

16:00

17:00

18:00

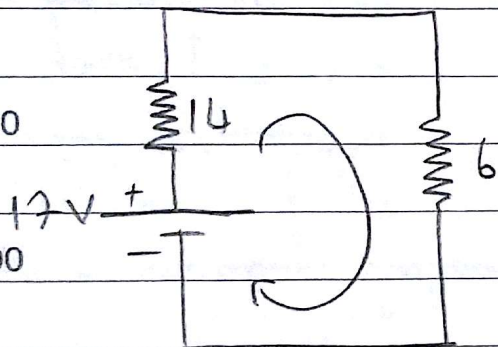
19:00

08:00

09:00

10:00

11:00

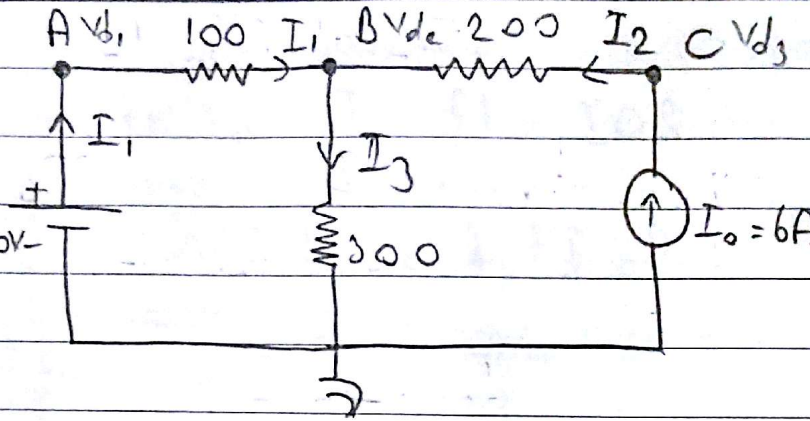


$$20I = 17 \quad I = 0,85A$$

$$P = I^2 \cdot R = 4,335W$$

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08:00



$$I_1 - I_1 = 0$$

$$I_1 + I_2 - I_3 = 0$$

$$I_0 = -I_2$$

09:00

$$E = 200V$$

10:00

11:00

$$I_1 - \frac{V_1}{100} = 0$$

$$I_1 - \frac{E - V_{d2}}{R_1} = 0$$

12:00

$$\frac{V_1}{100} + \frac{V_2}{200} - \frac{V_3}{300} = 0$$

$$\frac{E - V_{d2}}{R_1} + \frac{V_{d3} - V_{d2}}{R_2} - \frac{V_{d2}}{R_3} = 0$$

13:00

$$\frac{V_2}{200} = I_0$$

$$\frac{V_{d3} - V_{d2}}{R_2} = I_0$$

14:00

$$V_{d1} = E$$

$$V_1 = V_{d1} - V_{d2} = E - V_{d2}$$

15:00

$$V_2 = V_{d3} - V_{d2}$$

$$V_3 = V_{d2}$$

16:00

$$I_1 - \frac{200 - V_{d2}}{100} = 0$$

$$100I_1 + V_{d2} = 200$$

17:00

$$\frac{200 - V_{d2}}{100} + \frac{V_{d3} - V_{d2}}{200} - \frac{V_{d2}}{300} = 0$$

$$11V_{d2} - 3V_{d3} = 1200$$

18:00

$$\frac{V_{d3} - V_{d2}}{200} = 6$$

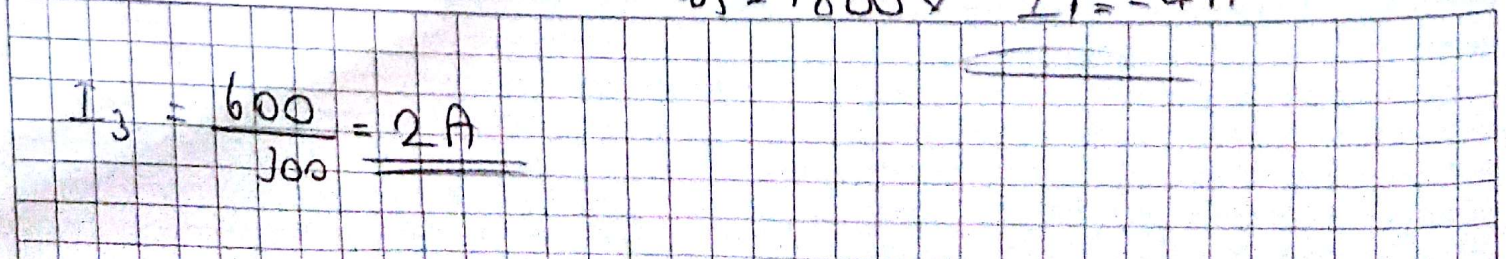
$$V_{d3} - V_{d2} = 1200$$

19:00

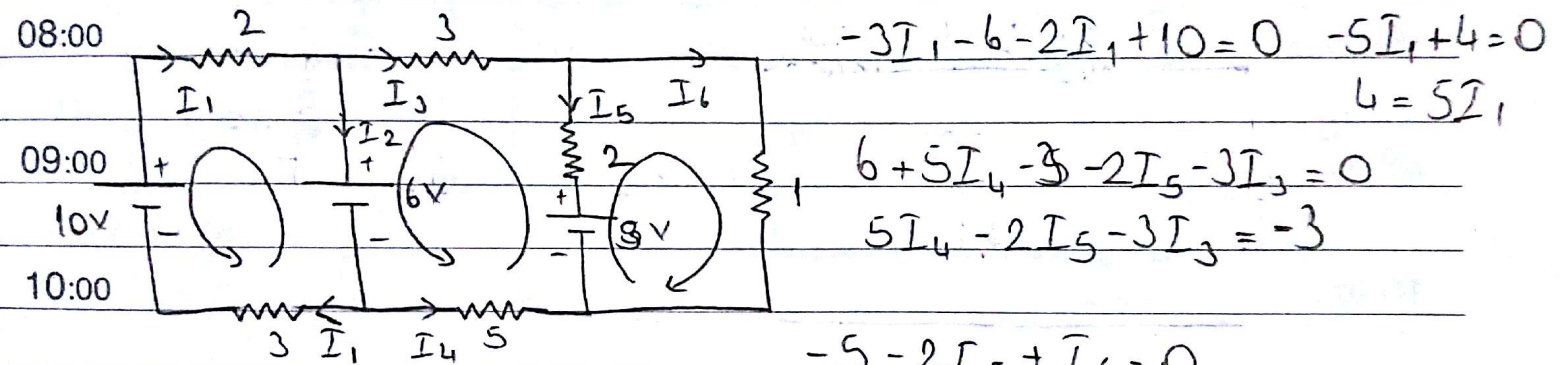
$$V_{d2} = 600V$$

$$V_{d3} = 1800V \quad I_1 = -4A$$

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$$I_3 = \frac{600}{300} = 2A$$



$$-3I_1 - 6 - 2I_1 + 10 = 0 \quad -5I_1 + 4 = 0$$

$$4 = 5I_1$$

$$6 + 5I_4 - 3 - 2I_5 - 3I_3 = 0$$

$$5I_4 - 2I_5 - 3I_3 = -3$$

$$-5 - 2I_5 + I_6 = 0$$

$$-2I_5 + I_6 = 3$$

11:00  $I_1 = -I_{a1}$   
 $I_2 = I_{a2} - I_{a1}$

12:00  $I_3 = -I_{a2}$        $4 = 5 \cdot I_{a1}$        $I_{a1} = -0,8 \text{ A}$   
 $I_4 = I_{a2}$

13:00  $I_5 = -I_{a2} - I_{a3}$        $5I_{a2} - 2(-I_{a2} - I_{a3}) - 3(-I_{a2}) = -3$   
 $I_6 = I_{a3}$        $5I_{a2} + 2I_{a2} + 2I_{a3} + 3I_{a2} = -3$

14:00  $10I_{a2} + 2I_{a3} = -3$

15:00  $-2(-I_{a2} - I_{a3}) + I_{a3} = 3$        $\cdot 5 / 2I_{a2} + 3I_{a3} = 3$   
 $2I_{a2} + 2I_{a3} + I_{a3} = 3$

16:00  $-13I_{a3} = -18$        $I_{a3} = \underline{\underline{1,384 \text{ A}}}$   
 $I_{a2} = -0,57$

17:00