

DAILY ASSESSMENT FORMAT

Date:	2/06/2020	Name:	PREETHAM S RAI
Course:	Network theory	USN:	4a18ec040
Topic:	Network terminology Graph of network	Semester & Section:	4th sem A section
Github Repository:	Psraipreetham		

FORENOON SESSION DETAILS

Image of session

Reciprocity Theorem

"In a linear bidirectional single source network the ratio of response to excitation remains the same even when the positions of response and excitation are inter-changed."

Reciprocity theorem is applicable when:

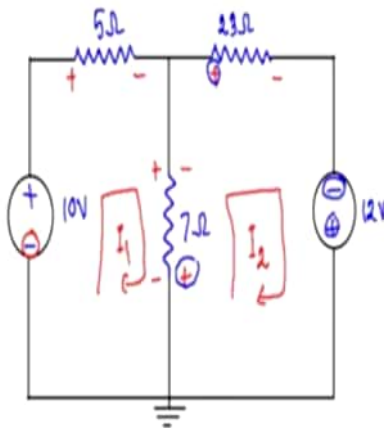
- 1) The ratio of response to excitation is either Ohm or Mho.
- 2) Only one independent source is present in the circuit.
- 3) No dependent source is present in the circuit.

NESO ACADEMY



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Verify Tellegen's Theorem for the following circuit



$$P = I^2 R = VI = \frac{V^2}{R}$$

Apply KVL to loop 1

$$+10 - 5I_1 - 7(I_1 - I_2) = 0$$

$$\Rightarrow -12I_1 + 7I_2 = -10 \quad \text{--- (1)}$$

Apply KVL to mesh-2,

$$-7(I_2 - I_1) - 23I_2 + 12 = 0$$

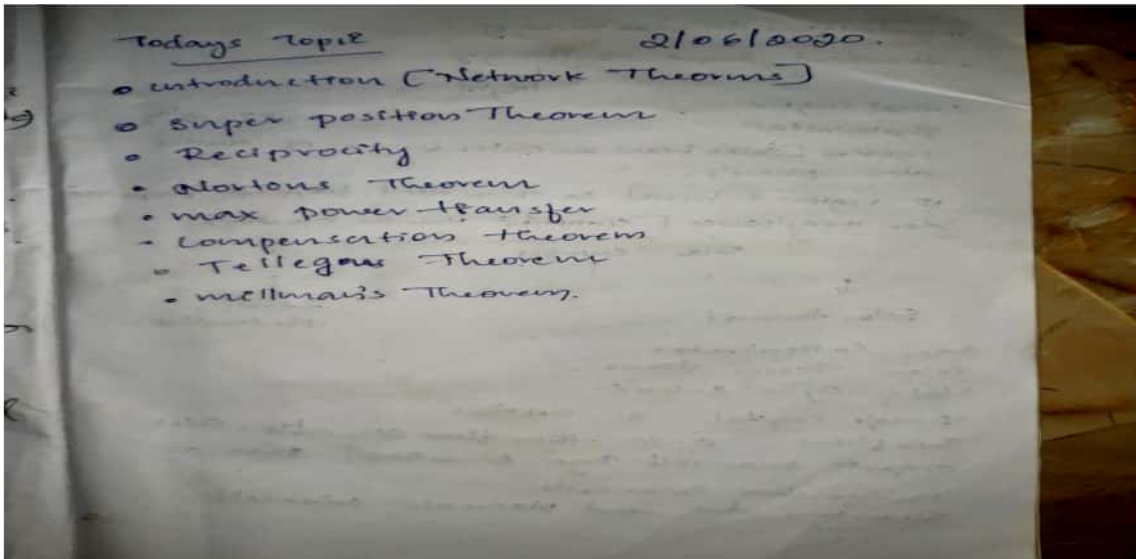
$$\Rightarrow 7I_1 - 30I_2 = -12 \quad \text{--- (2)}$$

①, ②

$$I_1 = 1.234 \text{ A}, I_2 = 0.688 \text{ A}$$

$$I_{7\Omega} = I_1 - I_2 = 0.546$$

Report – Report can be typed or hand written for up to two pages.



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