

# DAILY ASSESSMENT FORMAT

Date:	02-06-2020	Name:	Neha T
Course:	Network Theory	USN:	4AL18EC035
Topic:	Network theorems Resonance	Semester & Section:	4 <sup>th</sup> sem A sec
GitHub Repository:	Neha-T		

## FORENOON SESSION DETAILS

### Image of session

**Introduction to Network Theorems**

1. Superposition Theorem
2. Thevenin's Theorem
3. Norton's Theorem
4. Reciprocity Theorem
5. Millman's Theorem
6. Compensation Theorem
7. Substitution Theorem
8. Tellegen's Theorem
9. Maximum Power Transfer Theorem (for ac and dc)

**Linearity Property:** It is the property of an element describing a linear relationship between the input and output.

It is the combination of two laws:

- i) Law of Homogeneity.
- ii) Law of Additivity.

NESO ACADEMY

#NetworkTheoryByNeso #NetworkTheory #NetworkTheorems  
Introduction to Network Theorems

3,872 views • Feb 23, 2020

Up next:

- Norton's Theorem - Neso Academy (2.7K views)
- Superposition Theorem - Neso Academy (5.7K views)
- The Most Beautiful Equation in Math - Carnegie Mellon University (6.8M views)
- Video removed
- Network Theory - Neso Academy (Updated yesterday)

Example:  $i(t) = 2v(t) - 5y(t) - R_d$

LOA :-

$$v_1(t) \rightarrow s \rightarrow i_1(t) = 2v_1(t)$$

$$v_2(t) \rightarrow s \rightarrow i_2(t) = 2v_2(t)$$

$$v_1(t) + v_2(t) \rightarrow s \rightarrow i_1(t) + i_2(t) = 2v_1(t) + 2v_2(t)$$

$$v(t) \rightarrow s \rightarrow i(t) = 2v(t)$$

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Introduction to Network Theorems

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Up next:

- Superposition Theorem with Dependent Sources - Neso Academy (3.2K views)
- Thevenin's Theorem - Neso Academy (6.2K views)
- Norton's Theorem - Neso Academy (2.7K views)
- What is a PLC? PLC Basics Pt2 - plcprofessor (538K views)

**Report – Report can be typed or handwritten for up to two pages.**

### ➤ Network Theorems

- Intro -In case of complex network, tedious competition will get involved
- To handle this complex network, theorems are used by the Engineers
- There are 9 theorems which are discussed below

### ➤ Superposition theorem

- How to use this theorem to do the analysis of linear Bidirectional network
- Note
  - ❖ The dependent sources are left as they are
  - ❖ The Superposition theorem is not valid in case of non-linear circuit
- Discussed with example problem

### ➤ Thevenin's theorem

- Was given by Leon Charles Thevenin who was a French Engineer, developed on 1883
- Why this theorem is needed
  - ❖ If often happens that the element in a circuit is variable while the other elements are fixed, each time the variable element is changed the entire circuit must be analyzed again
  - ❖ To avoid this problem, we replace fixed part of the circuit by an Thevenin's equivalent circuit
- Discussed with example problem

### ➤ Norton's theorem

- Norton's Theorem states that it is possible to simplify any linear circuit, no matter how complex, to an equivalent circuit with just a single current source and parallel resistance connected to a load
- Need of this theorem
  - ❖ The Norton equivalent circuit is used to represent any network of linear sources and impedances at a given frequency.
  - ❖ Norton's theorem and its dual, Thevenin's theorem, are widely used for circuit analysis simplification and to study circuit's initial-condition and steady-state response

#### ➤ Reciprocity theorem

- Need of Reciprocity theorem
  - ❖ Reciprocity theorems are used in many electromagnetic applications, such as analyzing electrical networks and antenna systems
- The Reciprocity Theorem is applicable for both AC and DC Circuits
- While applying Reciprocity Theorem, the circuit does not have time varying element

#### ➤ Millman's theorem

- Millman's theorem is a method to simplify the solution of a circuit
- Specifically, Millman's theorem is used to compute the voltage at the ends of a circuit made up of only branches in parallel
- It is named after Jacob Millman, who proved the theorem

#### ➤ Max Power Transfer theorem

- The maximum amount of power will be dissipated by a load resistance if it is equal to the Thevenin or Norton resistance of the network supplying power

#### ➤ Compensation theorem

- In Compensation Theorem, the source voltage ( $V_C$ ) opposes the original current
- Can be stated as – the resistance of any network can be replaced by a voltage source, having the same voltage as the voltage drop across the resistance which is replaced

#### ➤ Tellegen's theorem

- Tellegen's Theorem states that the summation of power delivered is zero for each branch of any electrical network at any instant of time
- It is mainly applicable for designing the filters in signal processing
- It is also used in complex operating systems for regulating stability

#### ➤ Resonance

➤ Series RLC Circuits

➤ Parallel RLC Circuits

Date: 02-06-2020  
Course: Python  
Topic: Scraped Website Data

Name: Neha T  
USN: 4AL18EC035  
Semester 4<sup>th</sup> sem A sec  
& Section:

### AFTERNOON SESSION DETAILS

#### Image of session

UdeMy The Python Mega Course: Build 10 Real World Applications

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Course content

- 249. Loading the Webpage in Python 7min
- 250. Extracting "div" Tags 12min
- 251. Extracting Addresses and Property Details 15min
- 252. Extracting Elements without Unique Identifiers 12min
- 253. Saving the Extracted Data in CSV Files 8min
- 254. Crawling Through Webpages 17min

Section 31: Application 8: Build a Web-based Financial Graph 0 / 12 | 1hr 40min

Section 32: Application 9: Build a Data Collector Web App with PostgreSQL ... 0 / 11 | 2hr 47min

About this course

A complete Python course for both beginners and intermediates! Master Python 3 by making 10 amazing Python apps.

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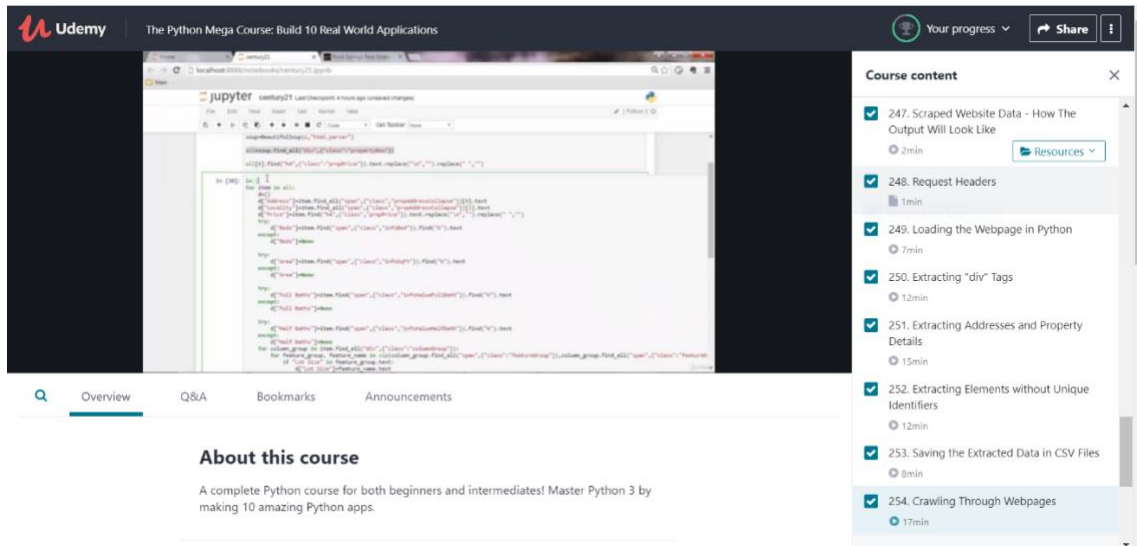
Course content

- 248. Request Headers 1min
- 249. Loading the Webpage in Python 7min
- 250. Extracting "div" Tags 12min
- 251. Extracting Addresses and Property Details 15min
- 252. Extracting Elements without Unique Identifiers 12min
- 253. Saving the Extracted Data in CSV Files 8min
- 254. Crawling Through Webpages 17min

Section 31: Application 8: Build a Web-based Financial Graph 0 / 12 | 1hr 40min

About this course

A complete Python course for both beginners and intermediates! Master Python 3 by making 10 amazing Python apps.



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### ➤ Scrape Real Estate Property Data from the Web

- **Intro –**
  - ❖ process of sorting through overwhelming amounts of data, refine the user's searches and provide a list of relevant information
  - ❖ In a realtor's case, it is the go-to tool for organized property listings
- **Request Headers**
  - ❖ HTTP header that can be used in an HTTP request, and that doesn't relate to the content of the message
- **Under this session**
  - ❖ Loading the Webpage in Python
  - ❖ Extracting “div” Tags
  - ❖ Extracting Addresses, Property Details and elements without Unique Identifiers
  - ❖ Saving the Extracted Data in CSV Files

## ❖ Crawling through Webpages

Were discussed