

DAILY ASSESSMENT FORMAT

Date:	2 JUNE 2020	Name:	HARSHITHA H
Course:	ELECTRICAL NETWORK THEORY	USN:	4AL18EC020
Topic:	1.Network Theorems 2.Resonance	Semester & Section:	IV SEM & A SECTION
Github Repository:	harshithah		

FORENOON SESSION DETAILS

Image of session

The image displays three screenshots of YouTube videos from the channel 'Neso Academy', which focus on network theorems in electrical engineering.

- Top Screenshot: Superposition Theorem**
 - Title:** Superposition Theorem
 - Description:** "The voltage across (or current through) an element in a linear circuit is the algebraic sum of the voltages across (or currents through) that element due to each independent source acting alone." It also states: "Turned Off: It means all the independent sources are replaced by their internal resistances. i.e. we replace every voltage source by 0V, and every current source by 0A." and "Note: 1. The dependent sources are left as they are. 2. The superposition theorem is not valid in case of non-linear circuits."
 - Views:** 5,800 views
 - Published:** Feb 24, 2020
- Middle Screenshot: Reciprocity Theorem**
 - Title:** Reciprocity Theorem
 - Description:** "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 interchanged." It lists conditions for applicability: 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. An example problem is provided.
 - Views:** 1,364 views
 - Published:** May 4, 2020
- Bottom Screenshot: Millman's Theorem**
 - Title:** Millman's Theorem
 - Description:** "If n voltage sources with voltages $E_1, E_2, E_3, \dots, E_n$ and internal resistance $R_1, R_2, R_3, \dots, R_n$ are connected in parallel, then these voltage sources can be replaced by a single voltage source E in series with resistance R ." It includes formulas for E and R .
 - Views:** 1,320 views
 - Published:** May 13, 2020



Report –

ELECTRICAL NETWORK THEORY

TOPICS COVERED:

1. Network theorems:

- Theorems in Network Theory
- Linearity property
- Circuit linearity examples



Superposition theorem:

- Definition of Superposition theorem
- Steps to apply Superposition theorem
- Examples



Thevenin's theorem:

- The need of Thevenin's theorem.
- The statement of Thevenin's theorem.
- The Thevenin's voltage.
- The Thevenin's resistance.
- The Thevenin's equivalent circuit.
- Example problem demonstrating the calculation of Thevenin's voltage and the Thevenin's resistance, along with the construction of Thevenin's equivalent circuit.



Norton's theorem:

- Norton's theorem statement.
- Norton's equivalent current.
- Norton's equivalent resistance.
- Norton's equivalent circuit.
- The difference between Thevenin's Theorem and Norton's Theorem.
- An example problem on Norton's theorem.

Reciprocity:

- The statement of Reciprocity Theorem.
- The conditions to use Reciprocity Theorem.
- Solved example on the use of Reciprocity Theorem.

Millmans theorem:

- The statement of Millman's theorem.
- The derivation of Millman's theorem.
- The dual of Millman's theorem.

Max Power theorem:

- Maximum Power Transfer Theorem
- Derivation of Maximum Power Transfer Theorem
- Examples

Compensation theorem:

- DC Circuit theorems
- State and deriving Compensation theorems

Tellegens theorem

2.Resonance and Bandwidth

Series RLC circuit:

- Resonance in the RLC circuit
- Quality factor
- Bandwidth of the series resonant circuit
- Derivation for the expression of resonant frequency
- Derivation of bandwidth of the series resonant circuit
- Expression of the Quality factor in terms of the circuit parameter.

Parallel RLC circuit:

- Resonance condition in Parallel RLC Circuit
- Derivation of resonant frequency for Parallel RLC Circuit
- Understanding the Resonant curve for Parallel RLC Circuit
- Quality Factor of parallel Resonant circuit
- Bandwidth of Parallel Resonant Circuit and its derivation
- Current Magnification in Parallel Resonant Circuit

Date:2 JUNE 2020	Name:HARSHITHA H
Course: PYTHON	USN: 4AL18EC020
Topic: Application 7: Scrape Real Estate property data from the web	Semester & Section: IV SEM & A SECTION

AFTERNOON SESSION DETAILS

Image of session

The image displays three sequential screenshots of a Jupyter Notebook interface, showing the process of web scraping real estate data from Century21.

249. Loading the Webpage in Python

```

In [1]: import requests
from lxml import BeautifulSoup

In [2]: r=requests.get("http://www.century21.com/real-estate/rock-springs-wy/LCWYROCKSPRINGS/")
r.content

In [4]: soup=BeautifulSoup(r,"html.parser")
print(soup.prettify())

```

251. Extracting Addresses and Property Details

```

In [29]: all=soup.findAll("div",{"class":"propertyRow"})
all[0].find("div",{"class":"propPrice").text.replace("\n","").replace("<br>","")

Out[29]: <div class="propertyRow" id="propertyRow82901-RENO21201395" onclick="Track.doEvent('Hybrid Mapping', 'Property Center Lane', 'Select a property with brand C21 to view details'); document.location.href='/property/0-gateway-rock-springs-wy-82901-RENO21201395'>
  <div class="CenterLaneCardBg CardWrapper propertyCard" id="propertyC212600598">
    <div class="CardThumb">
      <div class="landscapeThumbContainer">
        
      </div>
    </div>
    <div class="propPrice">
      $725,000
    </div>
    <span class="iconPropertyFavorite16"></span>
  </div>

In [ ]: for item in all:
    print item.find("div",{"class":"propPrice").text.replace("\n","").replace("<br>","")

```

253. Saving the Extracted Data in CSV Files

```

except:
    d["Full Baths"]=None
try:
    d["Half Baths"]=item.find("span",{"class":"infoValueHalfBath"}).find("b").text
except:
    d["Half Baths"]=None
for column_group in item.findAll("div",{"class":"columnGroup"}):
    for feature_group, feature_name in zip(column_group.findAll("span",{"class":"featureGroup"}),column_group.findAll("span",{"class":"feature"})):
        if "Lot Size" in feature_group.text:
            d["Lot Size"]=feature_name.text
        else:
            d["Lot Size"]=None

```

Out[31]:

```

[{'Address': '0 Gateway',
  'Area': None,
  'Beds': None,
  'Full Baths': None,
  'Half Baths': None,
  'Locality': 'Rock Springs, WY 82901',
  'Price': '$725,000',
  'Address': '1003 Winchester Blvd.',
  'Area': None,
  'Beds': 4,
  'Full Baths': 4,
  'Half Baths': None,
  'Locality': 'Rock Springs, WY 82901',
  'Lot Size': '0.21 Acres',
  'Price': '$452,000',
  'Address': '3239 Spearhead Way',
  'Area': '13,076',
  'Beds': 4,
  'Full Baths': 3,
  'Half Baths': 1}]

```

Report –

PYTHON:

Application 7: Scrape Real Estate Property Data from the Web

- Scraped website data
- Request Headers
- Loading the webpage in python
- Extracting “div” Tags
- Extracting website and property details
- Extracting elements without unique identifiers
- Saving the extracted data using CSV files
- Crawling through webpages