



# GOVERNMENT POLYTECHNIC KORAPUT

Discipline: Electrical Engg	Semester:4th	Name of the Teaching Faculty: SANDHYA KUMARI RANDHI Subject : Simulation practice on MATLAB
--------------------------------	--------------	--

Semester duration: 10/03/2022 to 10/06/2022

## DEPARTMENT OF ELECTRICAL

### Vision:-

To create competent and industry ready Electrical diploma engineers with professional and social values to meet future challenges

### Mission:-

- To prepare diploma holders through "qualitative competency based education system" to compete with national requirement along with core values
- To produce dynamic Electrical Engineers to serve the society and industry .
- To develop leadership qualities, communication skills, critical thinking and attitude for Lifelong learning.

### Program educational objectives:-

PEO1:	Apply technical knowledge and skills learned in the field of Electrical Engineering to excel in professional and/or higher education.
PEO2:	to provide students an excellent academic environment and make them aware the needs of Society and Industry to become a successful Professional/Entrepreneur.
PEO3:	To engage in lifelong learning, career enhancement to adopt emerging technologies

### Course outcomes:-

Co1	learn programming in MATLAB to perform mathematical manipulation.
Co2	prepare virtual experiment setup for different electrical and power electronics experiments under MATLAB Simulink.
Co3	verify different experiments in absence of proto type experimental equipments.
Co4	design various hardware projects using MATLAB



## GOVERNMENT POLYTECHNIC KORAPUT


Topic wise distribution of periods:

Sl. No.	Topics	No of Periods
1.	Introduction to MATLAB programming	20
2.	Introduction to SIMULINK	25
<b>Total</b>		<b>45</b>

Subject: <b>SIMULATION PRACTICE ON MATLAB</b>	No. of Days/per week class allotted:03	Semester From Date: No. of Weeks:15	To Date:
<b>Week</b>	<b>Class</b>	<b>Theory/Practical Topics</b>	
1 <sup>st</sup>	01	To learn algebraic, trigonometric and exponential manipulation.	
	02		
	03		
2 <sup>nd</sup>	01	To learn Arithmetic, Relational and Logic operator.	
	02		
	03		
3 <sup>rd</sup>	01	Matrix formation and its manipulation	
	02		
	03		
4 <sup>th</sup>	01	Use of linspace to create vectors. , add and multiply vectors.	
	02		
	03		
5 <sup>th</sup>	01	Use of sin and sqrt functions with vector arguments.	
	02		
	03		
6 <sup>th</sup>	01	Two dimensional Plots and sub plots Label the plot and printing.	
	02		
	03		
7 <sup>th</sup>	01	Write and execute a file to plot a circle, impulse, step, ramp, sine and cosine functions. .	
	02		
	03		

# GOVERNMENT POLYTECHNIC KORAPUT

8 <sup>th</sup>	01	<b>Introduction to SIMULINK:</b> Use of Commonly used blocks, Math operation block and Display block from SIMULINK library.
	02	
	03	
9 <sup>th</sup>	01	Use of logical and relational operator block.
	02	
	03	
10 <sup>th</sup>	01	Use of Sim-Power system block to use Electrical sources, elements and Power electronics devices.
	02	
	03	
11 <sup>th</sup>	01	<b>SIMULATION:</b> Verification of Network theorems.
	02	
	03	
12 <sup>th</sup>	01	Verification of Network theorems.
	02	
	03	
13 <sup>th</sup>	01	Simulation of a half wave uncontrolled rectifier.
	02	
	03	
14 <sup>th</sup>	01	Simulation of 1-phase full bridge controlled rectifier.
	02	
	03	
15 <sup>th</sup>	01	Simulation of step-down chopper.
	02	
	03	

  
 Signature of course coordinator

  
 signature of H.O.D