



OFFICE OF DEPT. OF ELECTRICAL ENGG.
GOVERNMENT POLYTECHNIC, KORAPUT
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PROGRAM: DIPLOMA IN ELECTRICAL ENGINEERING	Semester: 4TH	Name of the Teaching Faculty: MRS. SANDHYA KUMARI RANDHI
COURSE: SIMULATION PRACTICE ON MATLAB	SUBJECT CODE: PR3	COURSE CODE: C215
		End Semester Examination: 50 MARKS SESSIONAL: 25 MARKS
TOTAL PERIOD:45	No. of Days/per week class allotted:03	Semester From Date: 14/02/2023 To Date: 23/05/2023 No. of Weeks:15

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:-

	Course Outcome Statement
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

Sl.no.	Topic	period
1	Introduction to MATLAB programming	20

2	Introduction to SIMULINK	25
TOTAL		45

Week	Class	Theory/Practical Topics
1 st	01	Introduction to MATLAB programming: To learn algebraic, trigonometric and exponential manipulation.
	02	
	03	
2 nd	01	To learn Arithmetic, Relational and Logic operator.
	02	
	03	
3 rd	01	Matrix formation and its manipulation
	02	
	03	
4 th	01	Use of linspace to create vectors. , add and multiply vectors.
	02	
	03	
5 th	01	Use of sin and sqrt functions with vector arguments.
	02	
	03	
6 th	01	Two dimensional Plots and sub plots Label the plot and printing.
	02	
	03	
7 th	01	Write and execute a file to plot a circle, impulse, step, ramp, sine and cosine functions.
	02	
	03	
8 th	01	Introduction to SIMULINK: Use of Commonly used blocks, Math operation block and Display block from SIMULINK library.
	02	
	03	
9 th	01	Use of logical and relational operator block.
	02	
	03	
10 th	01	Use of Sim-Power system block to use Electrical sources, elements and Power electronics devices.
	02	
	03	
11 th	01	SIMULATION: Verification of Network theorems.
	02	
	03	
12 th	01	Verification of Network theorems.
	02	
	03	
13 th	01	Simulation of a half wave uncontrolled rectifier.
	02	
	03	
14 th	01	Simulation of 1-phase full bridge controlled rectifier.
	02	
	03	
15 th	01	Simulation of step-down chopper.
	02	
	03	

SIGNATURE OF COURSE CO-ORDINATOR

SIGNATURE OF H.O.D.