



**GOVERNMENT POLYTECHNIC KORAPUT
DEPARTMENT OF ELECTRICAL ENGINEERING**

Pr.3 DIGITAL ELECTRONICS & MICROPROCESSOR LAB

Name of the Course: Diploma in Electrical Engineering			
Name of the Faculty: S Bichiballi		W.E.F.: 01.08.2023	
Course code:	Pr.3	Semester	5 th
Total Period:	45	Examination	3 hrs
Lab. periods:	3 P / week	Term Work	25
Maximum marks:	75	End Semester Examination:	50

VISION:

To create competent & 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	Understand basic logic gates and their truth tables.
CO2	Compile basic programs to be executed in 8085 microprocessor kit.
CO3	Design control logics using 8085 and 8255 interface.
CO4	Design various combinational and sequential circuits using basic logic gates.




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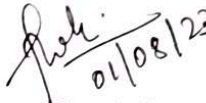
LESSON PLAN

Week	Day	Experiment
1 st	1 st	Verify truth tables of AND, OR, NOT, NOR, NAND, XOR, XNOR gates.
	2 nd	
	3 rd	
2 nd	1 st	Implement various gates by using universal properties of NAND & NOR gates and verify truth table.
	2 nd	
	3 rd	
3 rd	1 st	Implement Half Adder and Full Adder using logic gates.
	2 nd	
	3 rd	
4 th	1 st	Implement Half Subtractor and Full Subtractor using logic gates.
	2 nd	
	3 rd	
5 th	1 st	Implement a 4-bit Binary to Gray code converter.
	2 nd	
	3 rd	
6 th	1 st	Implement a Single bit digital comparator.
	2 nd	
	3 rd	
7 th	1 st	Study of Multiplexer and Demultiplexer.
	2 nd	
	3 rd	
8 th	1 st	Study of Flip-Flops: I. S-R Flip Flop II. J-K Flip Flop III. D Flip Flop IV. T Flip Flop
	2 nd	
	3 rd	
9 th	1 st	Realize a 4-bit synchronous Up/Down Counter with a control for up/down counting.
	2 nd	
	3 rd	
10 th	1 st	Implement Mod-10 Asynchronous Counter.
	2 nd	
	3 rd	
11 th	1 st	Study of Shift Registers.
	2 nd	
	3 rd	
12 th	1 st	General Programming using 8085A development board I. 1'S Complement II. 2'S Complement III. Addition of 8-bit number IV. Subtraction of 8-bit number resulting 8/16 bit number.
	2 nd	
	3 rd	

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13 th	1 st	I. Decimal Addition 8-bit number II. Decimal Subtraction 8-bit number
	2 nd	
	3 rd	
14 th	1 st	I. Compare between two numbers II. Find the largest in an Array III. Block Transfer.
	2 nd	
	3 rd	
15 th	1 st	Interfacing using 8085 I. Traffic light control using 8255 II. Generation of square wave using 8255
	2 nd	
	3 rd	


01/08/23
Signature of faculty concerned


01/08/23
H.O.D. Electrical