Pr.3 DIGITAL ELECTRONICS & MICROPROCESSOR LAB

Name of the Course: Diploma in Electrical Engineering			
Name of the Faculty: S Bichiballi Semester Start - 1/10/21.			
Course code:	Pr.3	**Semester**	5th
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
1st	1st 2nd 3rd	Verify truth tables of AND, OR, NOT, NOR, NAND, XOR, XNOR gates.
2nd	1st 2nd 3rd	Implement various gates by using universal properties of NAND & NOR gates and verify truth table.
3rd	1st 2nd 3rd	Implement Half Adder and Full Adder using logic gates.
4th	1st 2nd 3rd	Implement Half Subtractor and Full Subtractor using logic gates.
5th	1st 2nd 3rd	Implement a 4-bit Binary to Gray code converter.
6th	1st 2nd 3rd	Implement a Single bit digital comparator.
7th	1st 2nd 3rd	Study of Multiplexer and Demultiplexer.
8th	1st 2nd 3rd	Study of Flip-Flops: I. S-R Flip Flop II. J-K Flip Flop III. D Flip Flop IV. T Flip Flop
9th	1st 2nd 3rd	Realize a 4-bit synchronous Up/Down Counter with a control for up/down counting.
10th	1st 2nd 3rd	Implement Mod-10 Asynchronous Counter.
11th	1st 2nd 3rd	Study of Shift Registers.
12th	1st 2nd 3rd	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.

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

7/10/21

Signature of faculty concerned

7/10/21

H.O.D. Electrical