GOVERNMENT POLYTECHNIC, PURI
DEPARTMENT OF ELECTRICAL ENGINEERING

Discipline: ELECTRICAL ENGINEERING	Semester: 5TH	Name of the Teaching Faculty: MRS .LAXMIPRIYA KHUNTIA SR .LECT. IN ELECTRICAL ENGINEERING	
Subject: DIGITAL ELECTRONICS &MICROPROCESSOR	No. of classes allotted per week:04	Semester From date: **01.08.2023** To Date: **30.11.2023** No. of Weeks:15	
PRE-REQUISITE	Basic knowledge about digital number system and microprocessor with programming		
COURSE OUTCOMES	CO1:Understand the number system and their application CO2: Understand the concept of combinational circuit and its application CO3: Understand the concept of sequential circuit and its application CO4:Introduction to microprocessor and programming using 8085 microprocessor CO5:Basic interfacing concept and details of 8255 PPI		

Week	Class Day	Theory/Practical Topics	DELIVERY METHOD
1ST	1ST	Different number system	Whiteboard
	2ND	Binary addition, subtraction multiplication &division	Whiteboard
	3RD	1's &2's complement and subtraction using 2's complement	Whiteboard
	4TH	Explanation of importance and application of Binary codes	Whiteboard
2ND	1ST	Boolean algebra and different logic gates	Whiteboard
	2ND	SOP and POS expression and K-map contnd.	Whiteboard
	3RD	SOP and POS expression solving using K-map	Whiteboard
	4TH	**QUIZ&ASSIGNMENT-I**	Lecture notes
3RD	1ST	Concept of combinational circuit	Whiteboard
	2ND	Half adder circuit and its truth table varification	Whiteboard
	3RD	Half adder implementation using NAND gates only and NOR gates only	Whiteboard
	4TH	Full adder circuit and its application truth table varification	Whiteboard
4TH	1ST	Realize Full adder using Half adder and OR gates	Whiteboard
	2ND	Full Subtractor circuit and its truth table verification	Whiteboard
	3RD	4:1 MUX and 1:4 DMUX	Whiteboard
	4TH	4:1 MUX and 1:4 DMUX problem solving	Whiteboard
5TH	1ST	Binary decimal Encoder and Decoder problem solving	Whiteboard
	2ND	Adder problem solving	Whiteboard
	3RD	Subtractor problem solving contnd	Whiteboard
	4TH	Subtractor problem solving	Whiteboard
6TH	1ST	Two bit Magnitude comparator	Whiteboard
	2ND	Two bit Magnitude comparator Problem solving	Whiteboard
	3RD	**QUIZ&ASSIGNMENT-II**	Lecture notes
	4TH	Concept of Sequential circuit	Whiteboard

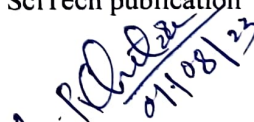|			
7TH	1ST	Understanding the necessity of clock and its type o triggering	Whiteboard
	2ND	Clocked S R Flip Flop.	Whiteboard
	3RD	Concept of race around condition and study of Master Slave	Whiteboard
	4TH	JK Flip flop	Whiteboard
8TH	1ST	Truth table of D flip flop and T Flip Flop	Lecture notes
	2ND	Modulus counter	Whiteboard
	3RD	4 bit asynchronous counter and its timing diagram	Whiteboard
	4TH	Asynchronous decade counter	Whiteboard
9TH	1ST	4 bit synchronous counter Registers and its types	Whiteboard
	2ND	Working of SISO,SIPO,PISO,PIPO registers and their truth table	Whiteboard
	3RD	**QUIZ&ASSIGNMENT-III**	Lecture notes
	4TH	Introduction to microprocessor, Microcomputer	Whiteboard
10TH	1ST	Arichitecture,Pin diagram of 8085microprocessor	Whiteboard
	2ND	Stack pointer Interrupt	Whiteboard
	3RD	Instruction of 8085 microprocessor	Whiteboard
	4TH	Counter and time delay	Whiteboard
11TH	1ST	Assembly language programming of 8085 microprocessor	Whiteboard
	2ND	**QUIZ&ASSIGNMENT-IV**	Lecture notes
	3RD	Basic interfacing concept	Whiteboard
	4TH	Memory mapping	Whiteboard
12TH	1ST	Memory i/o	Whiteboard
	2ND	Functional block diagram and description of 8255 PPI contd	Lecture notes
	3RD	Functional block diagram and description of 8255 PPI	Whiteboard
	4TH	Application of seven segment LED display	Whiteboard
13TH	1ST	Square wave generator	Whiteboard
	2ND	Traffic light controller	Whiteboard
	3RD	**QUIZ &ASSIGNMENT-V**	Lecture notes
	4TH	PROBLEM SOLVING	Whiteboard
14TH	1ST	PROBLEM SOLVING	
	2ND	PREVIOUS YEAR QUESTIONS DISCUSSION	
	3RD	REVISION	
	4TH	REVISION	
15TH	1ST	PREVIOUS YEAR QUESTIONS DISCUSSION	
	2ND	REVISION	
	3RD	PREVIOUS YEAR QUESTIONS DISCUSSION	
	4TH	REVISION	

LEARNINGRESOUCES:

01. Fundamental of Digital Electronics by Ananda Kumar,Pill Publication

02. Digital Electronics-Principal & Application by S. K. Mondal,TMH publication 03. Digital Electronics by B. R. Gupta & V. Singhal, S. K. Kateria publication 04 Digital Electronics n by P. Raja, SciTech publication

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Principal
G.PPuri

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