BIJU PATTANAIK INSTITUTE OF TECHNOLOGY

GOVERNMENT POLYTECHNIC, PURI

ସରକାରୀ ବହୁବୃତ୍ତି ଅନୁଷ୍ଠାନ, ପୁରୀ

LESSON PLAN

ON

DIGITAL ELECTRONICS AND MICROPROCESSOR

5TH SEMESTER

PREPARED BY

MRS. LAXMIPRIYA KHUNTIA

SR. LECTURER IN ELECTRICAL ENGINEERING DEPARTMENT,

GOVERNMENT POLYTECHNIC, PURI.

GOVERNMENT POLYTECHNIC, PURIDEPARTMENTOFMECHANICALENGINEERING

Discipline:ELECTRICAL ENGINEERING	Semester: 5TH	Name of the Teaching Faculty:. Laxmipriya Choudhury
Subject: DIGITAL ELCTRONICS & MICROPROCESSOR	No. ofdays/per week classallotted:04	SemesterFromdate:- 15/09/2022 ToDate:- 22/12/2022 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**	
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 varification	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	Whiteboard
	2ND	Binary decimal Encoder and Decoder problem solving	Whiteboard
	3RD	Adder problem solving	Whiteboard
	4TH	Subtracter problem solving contnd.	Whiteboard
6TH	1ST	Subtracter problem solving	Whiteboard
	2ND	Two bit Magnitude comparator	Whiteboard
	3RD	Two bit Magnitude comparator Problem solving	Whiteboard
	4TH	**QUIZ&ASSIGNMENT-II**	Lecturenotes
7TH	1ST	Concept of Sequential circuit	Whiteboard
	2ND	Understanding the necessity of clock and its type of triggering	Whiteboard
	3RD	Clocked S R Flip Flop.	Whiteboard
	4TH	Concept of race around condition and study of Master Slave	Whiteboard

8TH		JK Flip flop	
	1ST	Truth table of D flip flop and T Flip Flop	Whiteboard
	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	Whiteboard
	2ND	Registers and its types	Whiteboard
	3RD	Working of SISO,SIPO,PISO,PIPO registers and their truth table	Whiteboard
	4TH	**QUIZ&ASSIGNMENT-III**	Lecturenotes
10TH	1ST	Introduction to microprocessor , Microcomputer	Whiteboard
	2ND	Arichitecture ,Pin diagram of 8085microprocessor	Whiteboard
	3RD	Stack pointer ,Interupt	Whiteboard
	4TH	Instruction of 8085 microprocessor	Whiteboard
11TH	1ST	Counter and time delay	Whiteboard
	2ND	Assembly language programming of 8085 microprocessor	Whiteboard
	3RD	**QUIZ&ASSIGNMENT-IV**	Lecturenotes
	4TH	Basic interfacing concept	Whiteboard
12TH	1ST	Memory mapping	Whiteboard
	2ND	Memory I/O	Whiteboard
	3RD	Functional block diagram and description of 8255 PPI contd.	Whiteboard
	4TH	Functional block diagram and description of 8255 PPI	Whiteboard
13TH	1ST	Application of 8255:seven segment LED display	Whiteboard
	2ND	Square wave generator	Whiteboard
	3RD	Traffic light controller	Whiteboard
	4TH	**QUIZ&ASSIGNMENT-V**	Lecturenotes
14TH	1ST	PROBLEM SOLVING	
	2ND	PROBLEM SOLVING	
	3RD	PREVIOUS YEAR QUESTIONS DISCUSSION	
	4TH	REVISION	
15TH	1ST	REVISION	
	2ND	PREVIOUS YEAR QUESTION DISCUSSION	
	3RD	REVISION	
	4TH	PREVIOUS YEAR QUESTION DISCUSSION	

LEARNINGRESOUCES:

01. Fundamental of Digital Electronics by Ananda Kumar ,PHI 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

L.P. Chettia
15/9/2022

Sign. of Faculty concerned

L.P. Chettia
15/9/2022

Sign. of HOD i/c

L.P. Chettia
15/9/2022

Principal
G.P Puri