

GOPAL KRISHNA COLLEGE OF ENGINEERING AND TECHNOLOGY

GOURAHARI VIHAR, PO: RANIPUT, JEYPORE – 764 005

LESSON PLAN

Name of the Subject: MICROPROCESSORS AND MICROCONTROLLERS

Name of the Faculty: Subrat Prasad Rath

Semester: 4th Semester

Branch: ETC

Semester From: January to April

No. of Weeks: 15 Weeks

Week	Day	Theory/ Practical Topics	Classes
1		UNIT 1- 8086 Microprocessor Architecture and Programming	7
	1.	Register Organisation of 8086	1
	2.	Architecture of 8086, Pin Configuration of 8086	1
	3.	Memory Organisation, Minimum/Maximum Mode Configuration	1
	4.	Machine Language Instruction Format	1
2	5.	Addressing Modes, Instruction Set	1
	6.	Assembler Directives,	1
	7.	Assembly Language Programming, Interrupts and its Handling	1
		UNIT 2-8086 Interfacing and Peripherals	8
	8.	8255 PPI: Modes 0, 1, 2 – Programming and Interfacing	1
3	9.	8253 Programmable Interval Timer	1
	10.	8279 Keyboard/Display Controller	1
	11.	8259 Programmable Interrupt Controller	1
	12.	Interfacing ADC and DAC	1
4	13.	8251 USART	1
	14.	Stepper Motor Interfacing	1
	15.	Memory Interfacing and I/O-mapped I/O	1
		UNIT 3-8051 Microcontroller Architecture and Programming	6
	16.	8051 Architecture and Pin Configuration	1
5	17.	I/O Ports, Memory Organization and Stack	1
	18.	Instruction Set: Data Transfer	
	19.	Arithmetic, Logical, Branching	1
	20.	Bit Manipulation, Assembly Programming of 8051	1
6	21.	Embedded C Basics For 8051	1
		UNIT 4-8051 Interfacing and Applications	6
	22.	Programming Timers/Counters	1
	23.	Interrupts in 8051	

7	24.	Interfacing LEDs	1
	25.	Switches, 16x2 LCD	1
	26.	Sensor Interfacing,	1
	27.	Serial Communication	1
		UNIT 5-Introduction to ARM Microcontrollers	3
8	28.	RISC vs CISC concepts	1
	29.	Basics of ARM Architecture and Instruction Set	1
	30.	Pipelining concept.	1
	31.		

Books Recommended:

1. Advanced Microprocessors and Peripherals, A.K. Ray, K M Bhurchandi, TMH Publication, 2007.
2. The 8051 Microcontroller and Embedded Systems, Muhammad Ali Mazidi, Janice Gillispie Mazidi, Rolin D.M C Kinlay, Pearson Education, Second Edition, 2008.
3. ARM System Developer's Guide – Sloss, Symes and Wright, Published by ELSEVIER INDIA, 2014.