KUMARAGURU
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B.E DEGREE EXAMINATIONS: NOV/DEC 2023

(Regulation 2018)

Fifth Semester

ELECTRICAL AND ELECTRONICS ENGINEERING

U18EEI5202**:** Microprocessors and Microcontrollers

COURSE OUTCOMES

CO1: Understand the fundamentals of Microprocessors.

CO2: Understand the architecture and instructions of 8051 Microcontroller to write programs using assembly language and Embedded C.

CO3: Apply the techniques to control the peripheral devices with Microcontrollers.

CO4: Understand the architecture and instructions of PIC Microcontroller to write programs using Embedded C.

CO5: Analyze the interfacing modules of microcontrollers using an IDE

Time: Three Hours   **Maximum Marks: 100**

Answer all the Questions:-

PART A (10 x 2 = 20 Marks)
(Answer not more than 40 words)

1.	Compare Microprocessor and Microcontroller.	CO1	[K$_2$]
2.	Define Pipelining.	CO1	[K$_1$]
3.	Name the various addressing modes of 8051 Microcontroller.	CO2	[K$_1$]
4.	Define interrupt.	CO2	[K$_1$]
5.	List the various data types supported by 8051 Embedded C programming.	CO3	[K$_1$]
6.	What do you mean by baud rate?	CO3	[K$_1$]
7.	Define Brown out reset.	CO4	[K$_1$]
8.	What is the primary function of the watchdog timer module?	CO4	[K$_2$]
9.	Name some programming tools used to flash the program into the Microcontroller.	CO5	[K$_2$]
10.	What is an IDE? Name any two IDE software .	CO5	[K$_1$]

Answer any FIVE Questions:-
PART B (5 x 16 = 80 Marks)
(Answer not more than 400 words)

11.	a)	Discriminate the fundamentals of 8-bit and 16-bit Microprocessors.	8	CO1	[K$_2$]
	b)	Enumerate the role of Microprocessors and Microcontrollers in the Embedded system.	8	CO1	[K$_3$]
12.		Draw and explain the architecture of 8051 microcontroller.	16	CO2	[K$_2$]
13.		With neat sketch write an Embedded C program to display your roll number in the 7 segment display LED by interfacing 8051 Microcontroller.	16	CO3	[K$_3$]
14.		Describe the program memory organization of PIC16Fxx Microcontroller with necessary diagram.	16	CO4	[K$_2$]
15.		Write an embedded C program to configure ADC module of PIC microcontroller with necessary Diagram.	16	CO5	[K$_3$]
16.		Draw and explain the architecture of PIC16F877A Microcontroller.	16	CO4	[K$_2$]

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