Register Number:……..

KUMARAGURU
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B.E DEGREE EXAMINATIONS: APRIL / MAY 2023

(Regulation 2018)

Sixth Semester

ELECTRICAL AND ELECTRONICS ENGINEERING

U18EEI6201**:** Embedded System

COURSE OUTCOMES

CO1: Understand the fundamentals of Embedded systems and its communication protocols.
CO2: Understand the basic concepts of RTOS for optimized CPU performance.
CO3: Understand the architectural features of ARM processor.
CO4: Apply the instructions to program ARM processor using Embedded C.
CO5: Analyze the internal peripherals of ARM processor 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.	Define Embedded system.	CO1	[K_1]
2.	List the embedded system design constraints.	CO1	[K_2]
3.	What is the need for pipe lining?	CO2	[K_1]
4.	How many identifier bits are used in CAN 2.0 A and CAN 2.0 B?	CO2	[K_2]
5.	Differentiate CISC and RISC Architecture.	CO3	[K_2]
6.	List the functions of ARM memory Management unit.	CO3	[K1]
7.	Mention the features of ARM 7 Family.	CO3	[K2]
8.	Compare ARM and Thumb Instruction set.	CO4	[K2]
9.	Name any two programming tool used for ARM processor.	CO4	[K2]
10.	What is the function of C compiler in IDE?	CO5	[K2]

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

11.		With neat sketch, explain the product Life cycle model of an Embedded system.	16	CO1	[K_1]
12.		Explain I^2C Protocol with necessary diagram with its frame format.	16	CO1	[K_1]
13.	a)	Classify ARM processor modes and describe its function.	8	CO3	[K_2]

	b)	Compare ARM, Thumb, Jazzle mode of ARM processor.	8	CO3	[K_2]
14.		Categorize ARM Instruction set and explain with a suitable example.	16	CO2	[K_2]
15.	a)	Explain the role of UART and watchdog timer in ARM processor	8	CO4	[K_2]
	b)	Describe in detail about profiling and cycle counting.	8	CO4	[K_2]
16.		With necessary diagram and ARM C code explain PWM technique for 50 % duty cycle.	16	CO5	[K_2]

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