

	R V College of Engineering Department of Computer Science and Engineering CIE - III: Test 2 Question Paper		
	Subject : (Code)	Microcontroller and Embedded Systems 16CS53	Semester : B.E 5th Semester
Date : November 2018	Duration : 90 minutes	Staff : SDK/MSS/TM/KB	
Name :	USN :	Section :	A/B/C/D

Note: Answer all questions

SL.No		Marks	* L1-6	*CO
1.a	Briefly discuss the classification of embedded systems.	5	L1	CO1
1.b	Briefly discuss any five features of ARM Architecture/Core.	5	L1	CO1
2.a	Write an ALP for ARM 7, to solve $3x + 8y - 9z$, where $x = 2$, $y=3$ and $z=4$.	5	L3	CO2
2.b	With an example explain the working of following instructions: B BL BNE	5	L2	CO2
3.a	Describe with an example the programming of GPIO pins of ARM LPC 2148 Microcontroller.	5	L3	CO3
3.b	Explain the steps required to program UART of ARM LPC 2148 Microcontroller.	5	L3	CO3
4	Design smart street light system using ARM LPC 2148. Interface an LDR and LED Light and write an embedded C program to read the light intensity and make the LED Light glow at three different brightness levels. (Make suitable assumptions)	10	L5	CO4
5	Discuss in detail with the neat diagram, the Register Organization of ARM ISA.	10	L2	CO1

Course Outcomes:

CO1	Acquire the knowledge of architecture of Microcontrollers (Intel 8051 variants and ARM LPC 2148) for the different applications.
CO2	Develop skills in program writing for micro controllers based applications in assembly level language and Embedded C.
CO3	Develop skills to interface different Input Output device/peripherals to Microcontroller.
CO4	Design the required system configuration with software integration and test the design for a given application.

BT Levels & CO Mappings

L1	L2	L3	L5	CO1	CO2	CO3	CO4
10	15	15	10	20	10	10	10