22EC	PE614	EMBEDDED C		SEM	SEMESTER V PE Credit L T P 3 0 0			
PREREQUIS	SITE		CATEGORY	PE	Cre	edit	3	
1. C Programm	ning			L	Т	Р	TH	
			Hours/Week	3	0	0	3	
Course Objec	ctives:							
V		dded programs using the C programming language.						
		and build skills in writing circuit and assembly-level c	ode.					
		wledge on programming for real time problems.						
Unit I		DUCTION TO EMBEDDED SYSTEMS		9	0	0	9	
Introduction- H	Best Practices	for Embedded Systems-Difference between C and	d Embedded C-Proce	ssor to	use-P	rograr	nming	
		m- Develop embedded software. 8051 microcon						
an antino anto i	Clock-Memory	-I/O pins and timers- Interrupts-Serial Interface & Pow	ver Consumption.					
requirements- C								
Unit II		DED PROGRAMMING		9	0	0	9	
Unit II	EMBED	DED PROGRAMMING	^		~	~		
Unit II Introduction - 1	EMBED	DED PROGRAMMING Keil software and loading the project-Configuring the	simulator- Building th	he target	– Ru	nning	the	
Unit II Introduction - I simulation – D	EMBED Installing the I issecting the	DED PROGRAMMING	simulator- Building the witches : Introduction	he target – Basic	– Ru techr	nning niques	the	
Unit II Introduction - I simulation – D reading from p	EMBED Installing the I issecting the port pins – Exa	DED PROGRAMMING Keil software and loading the project-Configuring the program – Aside: Building the hardware - Reading s	simulator- Building the witches : Introduction	he target – Basic	– Ru techr	nning niques	the for	
Unit II Introduction - 1 simulation – D reading from p	EMBED Installing the post issecting the port pins – Exa – Reading swit	DED PROGRAMMING Keil software and loading the project-Configuring the program – Aside: Building the hardware - Reading sumple : Reading and writing bytes – bits- The need f	simulator- Building the witches : Introduction	he target – Basic	– Ru techr	nning niques	the for	
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Unit II Introduction - I simulation - D reading from p switch bounce - Unit III Object oriented	EMBED Installing the I issecting the I ort pins – Exa - Reading swite REAL T programming	DED PROGRAMMING Keil software and loading the project-Configuring the program – Aside: Building the hardware - Reading s imple : Reading and writing bytes – bits- The need f ch inputs- counting goats IME PROGRAMMING	e simulator- Building th witches : Introduction for pull-up resistors – I der (Port h) – Example	he target – Basic Example 9 e: Restru	techris: Dea	nning niques aling v 0 g the	the for with 9 'Hello	
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Text Book	s:							
1.	Michael J.Pont," Embedded C", Pearson Education, 2008.							
2.	Stephen Oualline, "Bare Metal C Embedded Programming for the Real World", No Starch Press, 2022							
Reference	Reference Books:							
1.	Mark Siegesmund, "Embedded C Programming Techniques and Applications of C and PIC MCUS", Elsevier							
	Science, 2014.							
2.	Michael Barr," Embedded C Coding Standard", Create Space Independent Publishing Platform, 2018.							
3.	Michael Barr, Anthony Massa, "Programming Embedded Systems With C and GNU Development Tools", O'Reilly							
	Media, 2006.							
4.	LyLa B. Das, "Embedded Systems: An Integrated Approach", Pearson Education India, 2012.							
E-Referen	ces:							
1.	https://www.cranesvarsity.com/courses/embedded-c-course/							
2.	https://www.udemy.com/course/embedded-c-programming-for-embedded-systems/							

Course Ou Upon com	Itcomes: pletion of this course, the students will be able to:	Bloom's Taxonomy Mapped
CO1	Understand basics of embedded systems and 8051 microcontroller	L2
CO2	Develop basic embedded programs	L3
CO3	Develop advanced embedded programs	L3
CO4	Relate and write programs for embedded Operating System	L1
CO5	Analyse the case study problems	L4

COURSE ARTICULATION MATRIX

COs/POs	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO2	PSO3
CO1		1			2										
CO2	2	2	2	2	2							1	1		
CO3	2	2	2	2	2							1	1		
CO4	2	2	2	2	2						2	2	2		
CO5	2	2	2	2	2						2		2		2
Avg	1.6	1.8	1.6	1.6	2						0.8	0.8	1.2		0.4
3/2/1 - indicates strength of correlation (3-High,2- Medium,1- Low)															