Master of Computer Application (MCA-III) Fifth Semester (Old) 5MCA51 – Paper – V Elective – I : Embedded System

P. Pages : 2 Time : Three Hours			\mathbf{GU}	UG/W/18/2140 Max. Marks : 80			
	Notes	s: 1. 2. 3.	All questions are compulsory and carry equal marks. Draw neat and labelled diagram and use supporting data wherever neces Avoid vague answers and write specific answers related to questions.	ssary.			
1.	Either :						
	a)	What do System.	o you mean by Embedded Systems? Explain different features of Embedd	led 8			
	b)	What is	the common architecture for E. S. design. Explain in detail.	8			
			OR				
	c)	Explain	following in detail :	8			
		1) En	nbedded Software design issues.				
		2) Co	ommunication Software.				
	d)	Explain detail.	different testing tools and skills required for an Embedded System design	ner in 8			
2.	Either :						
	a)	What is	8 – bit RISC microcontroller? Explain it with it's block diagram.	8			
	b)	Explain	following in detail :	8			
		1) Ad	Idressing Modes				
		2) Ins	struction Set.				
			OR				
	c)	What is	PIC Controller? Explain how to program using PIC Controller.	8			
	d)	Explain	32 – bit microprocessor's (ARM) in detail.	8			
3.	Eithe	Either :					
	a)	Define	Interfacing. Explain Serial Interfacing and real time clock in detail.	8			
	b)	What is	SPI / micro wire bus? Explain I2C bus and CAN bus in detail.	8			

OR

	c)	Explain following in detail :				
		1) Inter – Process Communication.				
		2) Synchronization.				
	d)	What do you mean by Interrupts? Explain Latency and Response of the task as performance metrics.	8			
	Eithe	er:				
	a)	Explain the Operating System Fundamentals for Embedded System in detail.	8			
	b)	Explain following in detail :	8			
		1) Context Switching				
		2) Inter task Communication.				
OR						
	c)	Explain the concept of Scheduling in E. S. Also explain different scheduling issues in detail.	8			
	d)	Explain RTOS and it's different applications in detail. Solve all the questions.				
		a) Write short note on recent trends in Embedded System.	4			
		b) Discuss in short about pipelining in ARM.	4			
		c) Write a note on RPC Functions.	4			
		d) Discuss in short about E. S. Processes and threads.	4			

4.

5.