Academic Year 2020-21
Term Test 1

Time: 1 hour   Maximum Marks: 25

Date: 09-09-2020   Time: 9:00 am – 10:00 am

Course: Microcontroller and Embedded Programming   T.E. (Sem-V)

Q1.	Attempt any 5	(15 mks)
	a. Distinguish between general-purpose computer and embedded system.	
	b. List the various steps involved in the design process of an embedded system.	
	c. Explain the function of $\overline{EA}/V_{pp}$ pin of 8051 microcontroller when the pin is set to 0 and 1.	
	d. Determine what happens when D0 bit of PCON register is set to 1. How does the microcontroller terminate from this mode?	
	e. Outline at least 6 important features of ARM 7 microcontroller.	
	f. Write the mode selection bits M[4-0] of CPSR for all the modes of ARM.	
	g. Show how a pipelined processor performs better than a non-pipelined processor in terms of 'total cycles required for execution'.	
Q2.	a. Draw the structure of PSW register in 8051. Explain the difference between carry and auxiliary carry flags in PSW register. State any two functions of accumulator register.	(5 mks)
	OR	
	b. Determine the default values of Program counter and Port2 when the microcontroller is reset. Justify why the default value of stack pointer is set to 07H on reset. Explain register banks in 8051.	
Q3.	a. Draw and explain the programmers model of ARM 7.	(5 mks)
	OR	
	b. Draw and explain ARM 7 architecture in short.	

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