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M.Tech. (EPDT) (2016 & Onwards) (Sem.–1) ADVANCED MICROCONTROLLER EMBEDDED SYSTEM Subject Code : MTET-104 Paper ID : [74138]

Max. Marks: 100

INSTRUCTION TO CANDIDATES :

Time : 3 Hrs.

- 1. Attempt any FIVE questions out of EIGHT questions.
- 2. Each question carries TWENTY marks.

Q1	a. Explain the Data RAM memory space allocation in PIC-18 microcontroller.	(10)
	b. Compare the different features of PIC-18 microcontroller's family members.	(10)
Q2	a. Draw and explain the bit pattern of TCON for PIC-18 microcontroller.	(10)
	b. Discuss some features of RISC as implemented by PIC-18 Microcontrollers.	(10)
Q3	a. Explain the following instructions with examples of PIC-18 microcontroller :	(12)
	i. ADDLW iii. RRCF	
	ii. BTG iv. GOTO	
	b. Explain the interrupts of PIC-18 microcontroller.	(8)
Q4	a. Write a program to create rectangular wave of 10KHz frequency with 75% durat PORTB.5 of PIC-18 Microcontroller.	ty cycle, (10)
	b. Draw the interfacing diagram of the relay with PIC-18 microcontroller. Also y program in C to control the switching of relay.	vrite the (10)
Q5	a. Draw and explain the internal block diagram of ARM processor.	(10)
	b. Explain the following instructions of ARM processor :	(10)
	i. MOV R0, #1234	
	ii. LDR R0, [R1, R2, LSL #2]	
	iii. BLAL	
	iv. STRB	
	v. SWI	

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Q6	a. What are the different exceptions for ARM processor? Explain in details.	(10)
	b. Draw and explain the bit pattern of application program status registers of processor.	ARM (10)
Q7	a. Write a program to find the negative numbers from a series of 16 bit numbers for processors. Assume the numbers and results in memory.	ARM (10)
	b. Draw and explain register organization of Thumb processor.	(10)
Q8	Write the short note on the following :	(20)
	a. JTAG	

- b. Software Interrupt
- c. DAC

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