Code : 15EC52T

Register Number | | | | | | | | | | |

V Semester Diploma Examination, April/May-2019

ARM CONTROLLER

Time : 3 Hours] **[Max. Marks : 100**

Instructions : (i) Answer any **six** questions from Part – **A**. (**6 × 5 = 30** marks)

(ii) Answer any **seven** full questions from Part – **B**. (**7 × 10 = 70** marks)

PART – A

1. Describe the functions of flags of CPSR register. **5**

2. Explain MAC unit with an example. **5**

3. Explain ARM THUMB networking using BX instructions. **5**

4. Explain the functions of following directives :
   (i) DCD
   (ii) DCB
   (iii) DCW **5**

5. Explain exception handling in ARM processor. **5**

6. Write code for enabling IRQ & FIQ interrupts. **5**

7. List any five features of LPC 2148. **5**

8. Define timer & PWM of LPC 2148. **5**

9. Explain the bit structure of PLLCFG register. **5**

PART – B

10.		Explain typical ARMCORE embedded device.	10
11.	(a)	Explain different ARM processor modes.	6
	(b)	Explain the AMBA bus protocol.	4
12.		Explain banked registers with a neat diagram.	10
13.	(a)	Explain SWAP & SWI instructions with example.	5
	(b)	Explain TST & TEQ instructions with example.	5
14.	(a)	Compare ARM & THUMB instructions.	5
	(b)	Write an ALP to find factorial of a no.	5
15.	(a)	Explain non-nested interrupt handler with a neat sketch.	6
	(b)	List the interrupt handling schemes.	4
16.	(a)	List any five features of UART.	5
	(b)	Explain the importance of brown out detector.	5
17.	(a)	Sketch a neat block diagram of PLL.	6
	(b)	List any four features of timer in LPC 2148.	4
18.	(a)	Explain the features of GPIO.	5
	(b)	Explain the applications of GPIO.	5
19.	(a)	Explain legacy GPIO registers.	5
	(b)	Describe bit structure of DACR registers.	5