Q.P. Code: **16EC5501** **R16**

Reg. No: | | | | | | | | | | |

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
M.Tech I Year I Semester (R16) Regular Examinations January 2017
MICRO CONTROLLERS & INTERFACING
(Common to CS, PE & ES)
(For Students admitted in 2016 only)

Time: **3 hours** Max. Marks: **60**

(Answer all Five Units **5 X 12 =60** Marks)

UNIT-I

Q.1	a.	Draw and explain the architecture of 8051 microcontroller with neat diagram.	7M
	b.	Write short notes on different addressing modes in 8051with examples?	5M
		OR	
Q.2	a.	Explain in brief about Timer in different modes.	7M
	b.	Discuss in detail about the TCON register and its functions.	5M

UNIT-II

Q.3	a.	Explain the Motorola 68HC11 microcontroller features.	4M
	b.	Draw and explain the block diagram of PIC 16C74 microcontroller.	8M
		OR	
Q.4	a.	Explain in detail about Serial Communication Interface in Motorola 68HC11 Microcontroller	6M
	b.	Explain interrupts handing in PIC 16C74 microcontroller.	6M

UNIT-III

Q.5	a.	Explain in brief about ATMEL external memory interfacing	5M
	b.	Describe in detail about. (i) Timers (ii) Watchdog	7M
		OR	
Q.6	a.	Explain about PWM pulse generation using micro controller	8M
	b.	Give a brief note about ISP & IAP features	4M

UNIT-IV

Q.7	a.	Explain the 5-stage pipelining process of ARM Processor	5M
	b.	Explain the following instructions of ARM processor (i) TSTEQ r2, #5 (ii) CMP r0, r1 (iii) BICEQ	7M
		OR	
Q.8	a.	Explain the complete register organization of ARM processor	8M
	b.	List the various data transfer instruction supported for serial and parallel communication in ARM processor?	4M

UNIT-V

Q.9	a.	Explain in detail about interrupt vectors & priority.	7M
	b.	Explain the various interrupt handling mechanisms	5M
		OR	
Q.10	a.	Discuss the complete design of typical embedded system	8M
	b.	List the applications of microcontrollers in Industrial control	4M

***** END *****