

B.E.(with Credits)-Regular-Semester 2012-Electronics & Communication Engineering & (Telecom. Eng) Sem V

EC504 Micro Controller and its Applications

P. Pages: 2 Time: Three Hours Max. Marks: 80 Notes: 1. All questions carry marks as indicated. Due credit will be given to neatness and adequate dimensions. 3. Assume suitable data wherever necessary. Diagrams and Chemical equation should be given wherever necessary. 5. Illustrate your answers wherever necessary with the help of neat sketches. 8 1. a) Draw the architectural block diagram of 8051 μC. b) Explain the following registers: 8 a) PC SP b) c) Acc d) ΙE OR 2. a) Draw & explain PSW register of 8051 μC. 8 b) Explain programming model of 8051 μC. 8 **3**. a) Explain interrupts in 8051 µC. What is interrupt vector table & 8 ISR? b) Explain I/o ports of 8051. Also mention its alternate functions. 8 OR a) Explain timer registers TMOD & SCON for serial register. 4. 8 b) Explain Mode 1 & Mode 2 of 8051 µC timer. 8

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OR

5.	a)	Define addressing mode. Enlist addressing modes in 8051 μC & explain in brief.	8
	b)	Explain the following instructions: i) DJNZ ii) D A A iii) SWAP iv) CJNE OR	8
6.	a)	Write a program to find square of a number using Look-up table. Assume P1 as i/p & P2 as o/p port.	8
	b)	Explain in brief the classification of instruction set of μC 8051 with example.	8
7.	a)	Write a program for a stepper motor to monitor for status of switch (SW) which is connected to pin P2.7. & perform the following. i) If SW = 0, the stepper motor moves clockwise. ii) If SW = 1, the stepper motor moves counter clockwise.	8
	b)	Interface DAC with 8051 μ C and write a program to generate saw tooth wave using DAC. OR	8
8.		Draw the interfacing diagram of LCD display with 8051 μ C. WAP to display "Wow" on LCD display with checking busy flag before sending data / command to LCD. Given: P1 = data pin P2-0 = Rs pin P2-1 = R/W pin P2-2 = E Pin.	16
9.	a)	Explain the following pins in AT89C51 μ C. i) XTAL 1 & XTAL 2 ii) ALE iii) AD ₀ - AD ₇ iv) $\overline{\text{PSEN}}$	8
	b)	Enlist features of AT 89C51 $\mu C.$ Explain oscillator characteristic in it.	8
		OR	
10	a)	Draw the architectural block diagram of AT 89C2051 $\mu C.$	8
	b)	Write short note on AT89C2051 μP flash memory.	8
