Register Number: ……..

B.E DEGREE EXAMINATIONS: APRIL / MAY 2014

(Regulation 2009)

Sixth Semester

ELECTRONICS AND COMMUNICATION ENGINEERING

ECE116: Microprocessors And Microcontrollers

Time: Three Hours **Maximum Marks: 100**

Answer all the Questions:-

PART A (10 x 1 = 10 Marks)

1. The method of specifying the data to be operated by the instruction is called
   a) Decoding b) Addressing
   c) Interrupting d) Polling
2. The Disable Interrupt is used for disabling all the interrupts of 8085 except
   a) INTA b) TRAP
   c) INTR d) RST
3. In what mode all the three ports of 8255 can be used as either input port or output port
   a) Mode 0 b) Mode 1
   c) Mode 2 d) Mode 3
4. When the 8259 receives _____ signal, it outputs the lower order byte of CALL address on the data bus.
   a) INTA b) TRAP
   c) RST 5.5 d) RST 6.5
5. How many software interrupts can be implemented in 8086?
   a) 32 b) 64
   c) 128 d) 255
6. Which of the following register can be used to hold the address of a byte of data memory of 8051?
   a) SBUF b) DPTR
   c) PCON d) TMOD
7. 8051 has _____ Kilo Bytes of internal ROM as program memory and _____ Bytes of internal RAM as data memory.
   a) 4,32 b) 4,128
   c) 128,4 d) 4,64
8. _____ Signal is used as a read signal to read data from external memory.
   a) ALE b) PSEN
   c) PSW d) EA

9. The instruction used to swap the nibbles inside the accumulator in 8051 is
   a) MOVX A b) SWAX A
   c) MOVA A d) SWAP A
10. Which of the following instruction is not an immediate addressing mode instruction
   a) MOV A,#FF b) ADD A,#22
   c) SUBB A,#45 d) MUL AB

PART B (10 x 2 = 20 Marks)

11. List the various machine cycles of 8085.
12. Compare JUMP and CALL instruction.
13. Write the control word format in the BSR mode of 8255.
14. What is the use of 8279?
15. Discuss the function of instruction queue in 8086.
16. What is the purpose of AAA instruction?
17. List the advantages of microprocessor over microcontroller?
18. What are the register banks available in 8051?
19. Write an Assembly Language Program for ASCII to Decimal conversion using 8051.
20. What are the serial communication modes in 8051?

PART C (5 x 14 = 70 Marks)

21. a) (i) Explain the internal block diagram of 8085 microprocessor and discuss the function of each block. (10)
    (ii) Compare memory mapped I/O and I/O mapped I/O. (4)

    (OR)

    b) (i) Discuss the addressing modes of 8085 microprocessor with suitable examples. (10)
    (ii) Write short note on the interrupts in 8085. (4)

22. a) (i) What is USART? Draw and explain the function of each block of 8251. (10)
    (ii) List the six operating modes of 8253. (4)

    (OR)

    b) Explain the functional block of 8279 and explain how the keyboard and display can be interfaced with the processor.

23. a) (i) Draw and explain the architecture of 8086 microprocessor. (10)
    (ii) Explain about the two modes of operation of 8086. (4)

    (OR)

	b)	(i)	Discuss the instruction set of 8086 with suitable examples.	(10)
		(ii)	Write an assembly language program for 16 bit multiplication using 8086.	(4)
24.	a)	(i)	Explain the memory organization of 8051 with neat diagram.	(10)
		(ii)	What are the different interrupts used in 8051? Which interrupt has the highest priority?	(4)
			(OR)	
	b)		Categorize the different I/O ports used in 8051 and explain the I/O port structure in detail.	
25.	a)	(i)	Explain the addressing modes of 8051 microcontroller with examples.	(10)
		(ii)	Discuss the bit manipulation instructions used in 8051.	(4)
			(OR)	
	b)		Explain the different operating modes and programming of timer/counter used in 8051 with suitable example.	

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