Register Number………………………

B.E. DEGREE EXAMINATIONS: APRIL/MAY 2012

Sixth Semester

ELECTRONICS AND COMMUNICATION ENGINEERING

ECE116: Microprocessors and Microcontrollers

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

Answer All Questions:-

PART A (10 x 1 = 10 Marks)

1. An instruction fetch cycle requires _____T states

   a) 7   b) 6   c) 8   d) 3

2. The only unmaskable interrupt in 8085 is

   a) INTR   b) RST 7.5   c) TRAP   d) RST 5.5

3. A 8 bit D/A converter has a resolution of

   a) 6.67   b) 0.0244   c) 0.392   d) 0.0392

4. Which mode generates a square wave in 8254 timer?

   a) Mode 2   b) Mode 0   c) Mode 3   d) Mode 5

5. The register used in multiplication and division operations in 8086

   a) DX   b) CX   c) SS   d) BX

6. Which flag is affected when the instruction MOV A, B is executed

   a) SF   b) ZF   c) CF   d) None

7. Internal ROM size in is 8051

   a) 128-byte   b) 0   c) 64 kB   d) 4 kB

8. Which resister holds the serial data interrupt bit T1 and R1

   a) PCON   b) SBUF   c) SCON   d) PSW

9. Identify the addressing mode of the given instruction MOV A, @ R_P

   a) Immediate   b) Direct   c) Register   d) Indirect

10. The opcode used for moving the data from the source address in the code ROM to the A register is

    a) MOV   b) MOV X   c) MOV C   d) MOV E

PART B (10 x 2 = 20 Marks)

11. What are the flags available in 8085?

12. Give the importance of stack pointer of 8085 microprocessor?

13. What are the operating modes of 8255?

14. Explain the terms key bouncing?

15. List all the segment registers of 8086.

16. What do you mean by pipelining in 8086 microprocessor?

17. Give the memory size of 8051.

18. Differentiate between microprocessor and microcontroller.

19. With suitable example explain the instruction DJNZ.

20. What are the addressing modes supported by 8051.

PART C (5 x 14 = 70 Marks)

21. a) Explain the different groups of instruction sets of 8085 microprocessor.

(OR)

b) (i) Write an ALP to find the factorial of given 8 bit numbers. (6)

(ii) Compare memory mapping & I/O mapping. (8)

22. a) Draw and explain mode 0, mode 1 and mode 2 operation of 8255.

(OR)

b) Explain the internal blocks of 8259, with its architecture.

23. a) Describe the functions of an 8086 processor in the maximum mode with neat diagram.

(OR)

b) Discuss the various addressing modes of 8086 processor with an example.

24. a) (i) Draw and explain the memory organization of 8051.

(ii) Write a note on interrupts in 8051.

(OR)

b) With neat diagram explain about the ports of 8051 microcontroller.

25. a) Explain the instruction set of 8051 with examples.

(OR)

b) Write a program to display 'counter 0' on 7 segment LEDS . Assume that clock input is connected to pin (P 3.4).

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