Register Number: ……..

B.E., DEGREE EXAMINATIONS: MAY/ JUNE 2013

Sixth Semester

ELECTRICAL AND ELECTRONICS ENGINEERING

EEE112: Microprocessor & Microcontroller

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

Answer all the Questions:-

PART A (10 x 1 = 10 Marks)

1. State the function of ALE signal.
   a) Multiplex address and data lines
   b) Demultiplex address and data lines
   c) Multiplex address lines
   d) Demultiplex address lines
2. What is the necessity of an interrupt?
   a) Device send signal to processor
   b) Processor send signal to device
   c) To increase speed of operation
   d) To terminate the processor function
3. The addressing modes in which the operand is not needed.
   a) Immediate
   b) Implicit
   c) Direct
   d) Indirect
4. How many bits can be processed in 8085?
   a) 32 bits
   b) 16 bits
   c) 8 bits
   d) 64 bits
5. The controller which is used for DMA operations.
   a) 8257
   b) 8259
   c) 8253
   d) 8251
6. How many address lines are required to interface 32 kBytes of memory?
   a) 14
   b) 16
   c) 15
   d) 13
7. What is the clock frequency of 8051 microcontroller?
   a) 15 MHz
   b) 16 MHz
   c) 18 MHz
   d) 12 MHz
8. Which port of the 8051 is used as address/data bus?
   a) P0
   b) P1
   c) P2
   d) P3

9. The display which consume less power is

a) LED b) LCD

c) Both LED & LCD d) White LED

10. The converter which is used to convert the real world signal is

a) ADC b) DAC

c) PWM d) Both ADC & DAC

PART B (10 x 2 = 20 Marks)

11. Mention the difference between Memory mapped I/O and I/O mapped I/O
12. What do you understand by ISR in 8086?
13. Write the different types of interrupts in 8085.
14. What is meant by Instruction cycle and Machine cycle?
15. List the functions of 8251 serial communication interface.
16. Mention the functions of a DMA controller.
17. List any four features of 8051 microcontroller.
18. State the significance of Idle mode operation of 8051.
19. What are the operating modes of 8051 timer?
20. Draw the keyboard interfacing circuit of 8051

PART C (5 x 14 = 70 Marks)

21. a) With neat block diagram explain the architectural features of 8085 Microprocessor.

(OR)

b) (i) With neat diagram explain the memory interfacing to 8085. (7)

(ii) Draw the timing diagram of I/O read machine cycle of 8085 and explain. (7)

22. a) Discuss about different 8085 Instruction classification with necessary examples.

(OR)

b) (i) Draw the timing diagram for the instruction MVI,10H (7)

(ii) Write an assembly language program for multiplication using repeated addition technique in 8085 (7)

23. a) With neat diagram explain the serial and parallel communication interfacing techniques.

(OR)

b) Explain the block diagram, function and programming of 8279 keyboard and display controller in detail.

24. a) Draw the architectural block diagram of 8051 Microcontroller and explain in detail.

(OR)

b) Write and explain various addressing modes and few instruction set in 8051 Microcontroller.

25. a) With interfacing diagram of ADC and DAC with 8051 explain how the waveforms are generated and converted using ADC & DAC.

(OR)

b) (i) Design an interface circuit to connect a 16kB EPROM 27128 to the 8051. (7)

(ii) Explain the serial data I/O of 8051 Microcontroller. (7)

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