# [07 – 3110]

## III/IV B.Tech. DEGREE EXAMINATION.

### First Semester

### Computer Science and Engineering

### MICROPROCESSORS – II

(Effective from the admitted batch of 2004–2005)

Time : Three hours          Maximum : 70 marks

First question is compulsory.

Answer any FOUR from the remaining questions.

All questions carry equal marks.

Answer all parts of any question at one place.

1.   (a)   Explain the operation of a dynamic RAM controller.

  (b)   Contrast a memory-mapped I/O system with an isolated I/O system.

  (c)   What is the purpose of the CONFIG.SYS file?

  (d)   Explain how odd parity is stored in a memory system and how it is checked.

  (e)   Which group of pins is used during Bi-directional operation of the 82C55?

(f) What time is usually used to de-bounce a keyboard?

(g) Explain Quasi Bidirectional ports of 8051

2. (a) Explain about the internal structure of 256 K × 1 DRAM

(b) Sketch and explain the 8086 bus activities during read machine cycle.

3. (a) Develop an I/O port decoder. using a 74ALS 138, that generates high-bank I/O strobes for the 8-Bit I/O port addresses 11 H, 13H, 15H, 17H, 19H, IBH, IDH, and IFH.

(b) Explain about I/O device programming methods.

4. (a) Explain about command words of 8259.

(b) Show interfacing schematic for connecting 13 interrupting devices to 8086 using 8259

5. Write a program sequence which initializes the mode register and gives a command to enable the transmitter and begin an asynchronous transmission of 7-bit characters followed by an even parity bit and 2 stop bits. Explain the program.

6. Sketch and explain the interface of PIT 8254 to the 8086 microprocessor in minimum mode. Write an 8086 assembly program to generate a clock of 10 Hz on the OUT 0 pin. Write an 8086 assembly program to generate a hardware triggerable mono-shot of 1 msec pulse width.

7. (a) Explain the working of Flash ADC.

   (b) What is the resolution of a 13-bit DAC? If the DAC has a full-scale output of 10V, what is the size of each step and what is the actual maximum output voltage?

8. (a) Write an 8051 assembly program to convert one byte Binary number to BCD.

   (b) Explain about DOS function calls.