Reg No.										

MANIPAL INSTITUTE OF TECHNOLOGY

(Constituent Institute of Manipal University)

MANIPAL-576104

FOURTH SEMESTER B.E (CSE) DEGREE END SEMESTER EXAMINATION

MAY-2009

PC SYSTEMS (CSE 208)

(REVISED CREDIT SYSTEM)

23-05-2009

TIME: 3 HOURS **MAX.MARKS: 50**

Instruction to Candidates

- Answer **any five** full questions (Draw diagrams wherever necessary).
- Missing data can be suitably assumed.

1A. Explain the **8086** architecture with a neat diagram. **4M**

1B. Explain Processor Status Word (PSW) of 8086. **2M**

1C. Explain the following instructions:

i. XCHG **ii.** DAS **iii.** RCL **iv.** AAD **4M**

2A. Explain the following addressing modes with an example each:

i. Register relative **ii.** Relative based indexed. **2M**

2B. Write an assembly language program to find the largest element of a given array. **3M**

2C. Write an assembly language program to convert the string of characters from upper case to lower case. Accept the string from the keyboard. **5M**

3A. Explain the following string instructions:

i. LODS **ii.** REPNE SCASB **2M**

3B. Write an assembly language program to find the factorial of a number using recursive procedure. **4M**

3C. With a neat diagram,explain the minimum mode configuration of **8086**. **4M**

4A. Draw and explain the timing diagram of **8086**'s maximum mode input operation. **4M**

4B. Write the function of the following pins of **8086**:

i. $\overline{\text{INTA}}$ **ii**. $\overline{\text{MWTC}}$ **2M**

4C. Explain the following interrupts along with their inputs:

i. INT 21H - DOS function requests: **08H, 3EH, 4CH**

ii. INT 10H - BIOS function request: **00H**. **4M**

5A. With a timing diagram and an application for each, explain the following modes of **8253** timer/counter.

i. MODE 0 ii. MODE 2 iii. MODE 5 (3x2=**6M**)

5B. In **8255**, what will be the control word for each of the following cases: **2M**

i.Port A as mode 0 output, **ii**. Port B as mode 1 input, **iii**. Port C upper as input, **iv**. Port C lower or bit 3 as output.

5C. Explain the following command words of **8259**:

i. OCW2 **ii**. ICW2 **2M**

6A. Explain the four modes in which the channels of **8237** can be set and operated. **2M**

6B. Explain the following **8087** instructions:

i. FIST **ii**. FDIVP **iii**. FICOMP **iv**. FYL2X **2M**

6C. Explain with diagrams, how the address is generated using PVAM in **80286**. **6M**

**********ALL THE BEST! **********