Code No: R31055 **R10** **Set No: 1**

III B.Tech. I Semester Supplementary Examinations, May 2013
MICRO PROCESSORS AND MULTICORE SYSTEM
(Computer Science & Engineering)

Time: 3 Hours **Max Marks: 75**

Answer any FIVE Questions
All Questions carry equal marks
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1 (a) Explain the memory segmentation in8086 processor. What is the advantage of segmentation?
(b) Explain the register set of 8086 processor

2 (a) Discuss various branch instructions of 8086 microprocessor that are useful for relocation?
(b) Using a While-do construct, develop a sequence of 8086 instructions that reads a character string from the keyboard and after pressing the enter key the character string is to be displayed again.

3 (a) Explain about string manipulation instructions with suitable examples.
(b) Differentiate between procedures and macros. Give some examples.

4 (a) Explain about the following instructions
(i)XCHG (ii) ADC (iii) POP (iv) IMUL
(b) What are the assembler directives and explain the following assembler directives.
(i) ASSUME (ii) SEGMENT (iii) DW (iv) ENDS

5 (a) Draw and explain the structure of interrupt vector table of 8086?
(b) How do you set or clear the interrupt flag IF? What is its importance in the interrupt structure of 8086?

6 (a) Write a program to find out whether a given byte is in the string or not. If it is in the string, find out the relative address of the byte from the string location of the string.
(b) How do you pass parameter to macro? Explain in detail.

7 (a) Explain task switching operation in Intel 8086?
(b) What are the features of RISC over CISC?

8 (a) Bring out the architectural difference between 80386 and any Pentium processor.
(b) What are the salient features of Pentium machine?
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Code No: R31055 **R10** **Set No: 2**

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(Computer Science & Engineering)

Time: 3 Hours **Max Marks: 75**

Answer any FIVE Questions
All Questions carry equal marks
*****

1 (a) Explain the architecture of 8086.
(b) Find out the machine code for the following instructions
(i) ADC AX, BX
(ii) JMP 3000H: 2000H
(iii) MOV BL, CL
(iv) SHR AX

2 (a) Write a program to implement WHILE condition using 8086 instructions.
(b) Write a program to generate a delay of 100 ms using an 8086 system that runs on 10 MHz frequency.

3 (a) Explain any four string manipulation instructions of 8086.
(b) What do you mean by a MACRO? Define a MACRO "SQUARE" that calculate square of a number.

4 (a) Discuss briefly the instruction formats of 8086.
(b) What are assembler directive? Explain any four assembler directives in detail.

5 (a) Explain the term "nested interrupt" what is the difference between hardware and software interrupts.
(b) What are the interrupt vector addresses of the following interrupts in the 8086 IVT?
(i) INTO (ii) NMI (iii) INT 20H (iv) INT 55H

6 (a) Write a program to arrange string of numbers in ascending order.
(b) Write an ALP to find out the ASCII code of alphanumeric characters.

7 (a) What is meant by paging? Draw and discuss the paging mechanism of 80386
(b) List out the salient features of 80386.

8 (a) Explain the interior structure of Pentium processor?
(b) Explain the pipeline feature of Pentium processor.
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Code No: R31055 **R10** **Set No: 3**

III B.Tech. I Semester Supplementary Examinations, May 2013
MICRO PROCESSORS AND MULTICORE SYSTEM
(Computer Science & Engineering)

Time: 3 Hours **Max Marks: 75**

Answer any FIVE Questions
All Questions carry equal marks
*****

1 (a) Discuss the procedure for coding the intersegment and intrasegment jump and call instructions
(b) Explain the function of the following signals of 8086
(i)NMI
(ii)MN/$\overline{MX}$
(iii) ALE
(iv) HOLD

2 (a) Write a program to implement FOR loop using 8086 instructions.
(b) How do you generate delays in software? What are the limitations of this method of generating delays? How will you synchronize one such delay with an external process?

3 (a) How are procedure CALL & RET take place in 8086 programming. Explain conditional & unconditional CALL & RET instructions in 8086 instruction set.
(b) Explain any two string manipulation instructions

4 (a) Discuss briefly the unconditional branch instructions of 8086
(b) Write briefly about
(i) PUBLIC directive
(ii) EXTERN directive

5 (a) Explain the interrupt structure of 8086 and interrupt vector table.
(b) Explain DOS and BIOS interrupts

6 (a) What are MACROS? Write an 8086 MACRO to produce 25 ms of delay without changing any of the processor registers used in main program. Consider the 8086 is operating on a 4 MHz clock
(b) Write a program in 8086 to find the number of 1's in a given data

7 (a) Write a note on Descriptor tables of 80386
(b) Explain the flag register of 80486

8 (a) Discuss briefly the basic characteristics of dual core processor
(b) Draw the schematic blocks of floating point unit (FPU) of any Pentium microprocessor and explain its different segments.
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Code No: R31055 **R10** **Set No: 4**

III B.Tech. I Semester Supplementary Examinations, May 2013
MICRO PROCESSORS AND MULTICORE SYSTEM
(Computer Science & Engineering)

Time: 3 Hours **Max Marks: 75**

Answer any FIVE Questions
All Questions carry equal marks
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1 (a) Explain in detail about the following units in 8086 MP
(i) BIU (ii) EU
(b) Draw and explain the flag register of 8086

2 (a) Write a program to implement IF-THEN-ELSE command using 8086 instructions.
(b) Write a program to generate 1 sec delay using a 8086 microprocessor system that runs at 5 MHz

3 (a) What is a procedure? Given an example to declare a procedure as near? Make this procedure as PUBLIC procedure.
(b) Explain with a simple program, how string manipulation can be achieved.

4 (a) Explain any four memory transfer instructions of 8086.
(b) Explain the following four assembler directives
(i) ASSUME (ii) EQU (iii) LABEL (iv) OFFSET

5 (a) Explain ISR in nested interrupts for 8086 with an example.
(b) Explain the interrupt response sequence of 8086.

6 (a) Write an 8086 assembly language program to find out the number of positive numbers and negative numbers from a given series of signed numbers.
(b) Write an 8086 assembly language program to convert a 16-bit binary number into equivalent BCD number.

7 Explain in details about the 80486 memory management unit.

8 (a) Explain the various stages involved in the development of Pentium based systems?
(b) Discuss the functions of branch prediction and branch target buffer of Pentium microprocessor.

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