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Kharghar, Navi Mumbai - 410 210.

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING IN DATA SCIENCE

QUESTION BANK

Class/Sem: SE Sem IV **Course Name: Microprocessor (CSC405)**

MODULE I :The Intel Microprocessor 8086 Architecture

1. Draw and explain the architecture of microprocessor 8086.
2. Explain Flag register of 8086.
3. What is the advantages of Memory Banking in 8086 processor? Justify with example.
4. Draw and explain write mode operation timing diagram of 8086 processor in Maximum mode.
5. Draw and explain timing diagram of memory read and memory write operation in Minimum mode.
6. Explain the interrupt structure of 8086 processor.
7. Explain and Draw IVT? Differentiate between Hardware and Software interrupts.
8. Write short note on Macros and Procedure with example.
9. Differentiate between Macros and Procedure.
10. Explain assembly directives.
11.

MODULE II :Instruction Set and Programming

1. Explain all addressing modes of 8086 microprocessor with examples.
2. Explain the following instructions:
   DAA , AAA, XLAT, LAHF
3. Write an ALP FOR 8086 to arrange 10 numbers in ascending order.
4. Write an ALP for searching a character in a Given String.
5. Write an ALP to print Flag Register.
6. Write an ALP to find if the given Year is leap year or not.
7. Write an ALP to find the Largest number from an array.
8. Write short note on Mixed lanquage programming.

MODULE III : Memory and Peripherals Interfacing

1. Draw and explain the Mater slave mode of 8259 processor with suitable example . Consider slave 8259 connected to IR0 and IR4 of master.
2. Explain Mode 2 of 8255 with neat block diagram. Show the CWR initialization.
3. Draw & Explain architecture block diagram of 8255 PPI. Also Draw CWR format of 8255.
4. Draw & Explain block diagram of 8257 DMA controller. Explain its control register format.
5. Explain the initialization command words(ICWs) and operational command words(OCWs)of the 8259PIC.
6. Design 8086 microprocessor based system working in minimum mode with the following specifications.

   i)8086 Microprocessor working at 8MHz.

   ii)16KB EPROM using 8K devices.
7. Design 8086 microprocessor based system working in minimum mode with the following specifications.

   i)8086 Microprocessor working at 5MHz.

   ii)128KB EPROM using 32KB

   iii)32KB RAM using 16KB.

MODULE IV: 80386 Processor

1. Explain VM RF NT & IOPL Flags of 80386 processor.
2. Explain modes of operation of 80386DX Processor.
3. Explain Architecture of 80386 processor?
4. Explain descriptors and paging mechanism in protected mode of 80386?
5. Explain protection mechanism of 80386 with diagram.
6. Explain the segment descriptor of 80386 processor.
7. Explain the EFLAG REGISTER of 80386 processor.
8. Differentiate between real mode, Virtual mode, and Protected mode of 80386.

MODULE V: Pentium Processor

1. Explain Architecture of Pentium processor.
2. Draw and explain Floating point pipeline for Pentium processor.
3. Explain floating point pipeline of Pentium Processor.
4. Explain the Branch prediction Mechanism of Pentium Processor.
5. Explain Integer floating point pipeline of Pentium.
6. Explain an instruction issue algorithm of Pentium Processor.
7. Explain Cache organization of Pentium Processor.
8.

MODULE VI: Pentium 4

1. Explain Pentium 4 Net burst micro architecture and write a note on hyperthreding.
2. Comparison between 8086 80386 & Pentium I, II, III

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