F.Y. B.Sc.(IT) : Sem. II

Microprocessor Architecture

Time : 2½ Hrs.] Prelim Question Paper **[Marks : 75**

N.B.: (1) All questions **are** compulsory.
(2) **Make suitable assumptions** wherever **necessary** and **state the assumptions** made.
(3) **Answer** to the **same questions** must be **written together**.
(4) **Numbers** to the **right indicate marks**.
(5) Draw **neat** labeled **diagrams wherever necessary**.
(6) Use of **Non-programmable** calculators is **allowed**.

1. Attempt the following (any **THREE**) **[15]**
(a) Explain following pins of 8085.
INTA, RESET IN, RESET OUT, READY, HOLD and HLDA
(b) Explain Flag Flip Flop of 8085.
(c) Draw memory write cycle.
(d) Short notes on :
1. Program Counter 2. Stack Pointer 3. Accumulator
(e) What are the Features of Microprocessor 8085?
(f) What is word , nibble, assembly language and machine language.

2. Attempt the following (any **THREE**) **[15]**
(a) WAP To perform addition of two 8 bit numbers using 8085.
(b) List different addressing modes used by 8085 microprocessor. Write any one 1byte and any one 2 byte instruction to perform arithmetic operaiton using 8085 microprocessor.
(c) What is instruction and what are the type of instruction.
(d) List down Arithmetic Instruction.
(e) Compare memory mapped I/O and I/O mapped I/O.
(f) Short note on CALL instruction.

3. Attempt the following (any **THREE**) : **[15]**
(a) Explain how 8085 microprocessor performs logical operation of comparing two data.
(b) What is time delay? Why is it needed? Explain how time delay can be generated using a register pair.
(c) WAP to generate a delay of 0.4 seconds.
(d) Explain the following concepts for subroutine program
(i) Nesting (ii) Multiple Ending Subroutine
(e) WAP of 8085 to multiply two 8 bit numbers using logical instructions.
(f) Short note on stack.

4. Attempt the following (any **THREE**) **[15]**
(a) What do you mean by vectored interrupts? Discuss each of 8085 vectored interrupt in brief.
(b) What is cross assembler and loader.
(c) Short note on Interrupt structure of 8085.
(d) WAP for BCD addition program.
(e) WAP for addition of two 16 bits number.
(f) Explain LHLD, SHLD, XCHG and XTHL.

5. Attempt the following (any **THREE**) **[15]**
(a) What are different types of special Pentium registers? Describe them in brief.
(b) Compare i3, i5,i7.
(c) Short note on Pentium pro processor.
(d) List some instruction of Pentium processor.
(e) Discuss the SYSENTER and SYSEXIT instructions of Pentium II Processor.
(f) Describe the memory management in Pentium and Pentium pro- processors.

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