Time: 3 Hours   Max. Marks:60

Instructions: 1. It is compulsory to answer all the questions (2 marks each) of Part -A in short.

2. Answer any four questions from Part -B in detail.

3. Different sub-parts of a question are to be attempted adjacent to each other.

PART -A

Q1 (a) Explain the concept of pipelining used in 8086?   (2)

(b) Explain the functions of the ALE and IO/M signals of the 8085 microprocessor.   (2)

(c) Explain maximum mode pins in 8086.   (2)

(d) Explain the difference between a JMP instruction and CALL instruction.   (2)

(e) What happens when 8086 microprocessor receives DMA request on RQ/GT_0 &   (2)
     RQ/GT_1 pins simultaneously?

(f) Define address bus and data bus.   (2)

(g) What are the advantages of microcontroller over microprocessor?   (2)

(h) What is the need of coprocessor? Give an example.   (2)

(i) Write the machine language instruction format.   (2)

(j) What is the advantage of memory segmentation in 8086 microprocessor?   (2)

PART -B

Q2 (a) What are the differences between low level language and high level language?   (5)

(b) Draw and discuss the flag register of 8085 microprocessor.   (5)

Q3 (a) Using 8086 instruction set write a program to add the contents of memory   (5)
     location 2000H:0500H to contents of 3000H:0600H and store the result in
     5000H:0700H.

(b) Draw and discuss various addressing modes in 8086 with suitable examples.   (5)

Q4   Explain the block Diagram of 8086 and describe its sub-blocks such as EU and   (10)
      BIU and various registers in details.

Q5 (a) What are the functions of segment register? What are the functions of general   (5)
     purpose register?

(b) Explain with diagram the interfacing of 8x8 matrix keyboard to the   (5)
     microprocessor. Also draw the flow chart for the same.

Q6 (a) Explain with block diagram the functioning of 8257 DMA controller   (5)

(b) How heavy motor can be interfaced with microprocessor? Explain.   (5)

Q7 (a) What will be the contents of register BL after the last instruction execution? (3)

    MOV BL, 14H
    MOV CL, 03H
    SHL BL,CL

   (b) Draw the timing diagram of minimum mode memory write cycle. Also explain the (7)
   same.

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