Code : 031511

B.Tech 5th Semester Exam., 2017

MICROPROCESSOR AND ITS APPLICATION

Time : 3 hours   Full Marks : 70

Instructions :

(i) The marks are indicated in the right-hand margin.

(ii) There are **NINE** questions in this paper.

(iii) Attempt **FIVE** questions in all.

(iv) Question No. **1** is compulsory.

1. Answer as directed any *seven* of the following :   2×7=14

   (a) How many general purpose resisters are there in 8085 microprocessor?

   (b) Program counter is an 8-bit register.

   (State True or False)

   (c) How many address buses are there in 8085 microprocessor?

   (d) If sign flag is set result of the arithmetic operation is positive.

   (State True or False)

   (e) How many pins are there in 8085 microprocessor?

8AK/55   (Turn Over)

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(2)

   (f) What is the addressing mode of the instruction STA 2400H?

   (g) LXI H, 2500H is a 3-byte instruction.

   (State True or False)

   (h) How many segment resisters are there in 8086 microprocessor?

   (i) How many data buses are there in 8086 microprocessor?

   (j) Intel 8251 is a programmable counter/ interval timer.

   (State True or False)

2. (a) State the functions of the following pins of 8085 microprocessor :   8

   ALE, IO/$\overline{M}$, SO, SI, HLDA

   (b) Discuss flag register of 8085 micro-processor.   6

3. (a) What are the functions of the following instructions of 8085 microprocessor?   8

   LXI H, 2400H, RAL, LDA 2500H, IN OI

   (b) Explain addressing modes of 8085 microprocessor with suitable examples.   6

8AK/55   (Continued)

4. (a) Draw the timing diagram of MVI A, 05. 9

(b) Discuss the functions of program counter and stack pointer. 5

5. (a) Write an assembly language program to add two 8-bit numbers and sum is 16 bits. akubihar.com 5

(b) Write an assembly language program to find largest no. in a data array. 9

6. (a) What are the functions of the following pins of Intel 8257? 6

    DRQ0 – DRQ3
    $A_6 - A_7$
    AEN
    ADS TB

(b) Draw and discuss the pin description of Intel 8251. akubihar.com 8

7. (a) Write the functions of the following pins of 8086 microprocessor : 6

    BHE/S7, NMI, $\overline{TEST}$, $\overline{DEN}$

(b) Discuss register organization of 8086 microprocessor. 8

8. (a) Write the functions of the following instructions of 8086 microprocessor : 6

    MOV AX, DX, ADD AL, 35H
    DIV CL, LODSB

(b) Write an assembly language program to add series of 16 bit numbers and sum is 32 bits. 8

9. Write short notes on the following : 7×2=14

(a) Interfacing to ADC

(b) Data transfer schemes

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