aktuonline.com

Printed Pages—4 **TEE—404**

(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 2054 Roll No. | | | | | | | | | | |

B.Tech.

FOURTH SEMESTER EXAMINATION, 2005-2006

MICROPROCESSORS

Time : 3 Hours *Total Marks : 100*

Note : *(i) Attempt **ALL** questions.*

(ii) All questions carry equal marks.

(iii) In case of numerical problems assume data wherever not provided.

(iv) Be precise in your answer.

1. Attempt *any four* parts of the following : **(5x4=20)**

(a) What are the different components of 8085 Microprocessor ? Explain each in brief.

(b) Explain the operation of each instruction (8085)

(i) DCR M

(ii) STA address

(iii) LXI H, Address

(iv) NOP

Also mention their instruction group and addressing mode.

(c) Draw the pin diagram of 8085 and specify the function and direction of information flow of address bus, data bus and control bus.

(d) What do you mean by pipe lined architecture ? How it is implemented in 8086 ?

(e) What are the different addressing mode of 8086 ? Give the name of segment memory in each one.

(f) Draw the timing diagram of memory read cycle in min. mode. Also give the advantages of segmentation of memory.

2. Attempt *any two* parts of the following : **(10x2=20)**

(a) The following instructions of 8086 are given below:

Write its addressing mode

(i) ADD [4000H], 0200H,

(ii) INC [BX]

(iii) MOV CX, [BX]

(iv) OR AX, [5000H]

Explain in brief the following instruction.

(i) INTO

(ii) SAR

(iii) TEST

(iv) IN AX, DX

(v) XCHG

Also show different instruction format of 8086.

 aktuonline.com

(b) A ALP program is given below. Determine count 1 and count 2 for delay of ten minutes.

Instruction selected	clock states
MOV BX, Count 1	4
Label : MOV CX, Count 2 (FFFFH)	4
DEC CX	2
DEC BX	2
JNZ lable	16
NOP	3
RET	8

Clock frequency = 10 MHZ.

(c) Using Directives, write, an assembly language program to find out the number of even and odd numbers from a series of 16 - bit hexadecimal numbers.

3. Attempt *any two* parts of the following : **(10x2=20)**

(a) Explain the significance of status lines S_0, S_1, S_2, S_3, S_4. Also give their action by its logical value related to 8086 microprocessor.

(b) Draw and discuss a typical max. mode 8086 system. What is the use of a bus controller in max. mode ?

(c) What are the interrupts associated with 8086 μp ? Draw the interrupt acknowledge sequence of 8086.

aktuonline.com

4. Attempt *any four* parts of the following : **(5x4=20)**

(a) What are the methods available for interfacing of I/o devices ?

(b) Draw the internal architecture of 8255. Also draw the control word format of 'BSR' mode.

(c) Give the name of different mode of operation of 8253. Explain in brief any two mode.

(d) Draw the interfacing diagram of ADC with 8086 μp. Also give the pin diagram of AD 7523 and explain in brief.

(e) What do you understand by DMA transfer ? Explain in brief mode set register.

(f) Explain the different handshake signal in mode-1 of 8255 interface. Also give its control format.

5. Attempt *any two* parts of the following : **(10x2=20)**

(a) Explain the command word of 8259 Int. controller. Also draw its control format.

(b) Discuss the formats of the available register of 8237.

(c) Draw the pin diagram of 8257/8237 and explain the function of each pin.

- o O o -