BT-4/J07

Microprocessor and Interfacing

Paper-ECE-216E

Time: Three Hours] [Maximum Marks: 100}

Note: - Attempt Five questions, selecting at least ONE from each unit.

UNIT-1

1. (i) Explain following 8085 signals:-

(S1S0), READY, SID, RST5..5.

(ii) Draw timing diagram for execution of instruction:

MVI A, 32 H.

(iii) List the steps 8085 will execute to process the instruction:

CALL 2075 H. 7, 7, 6

2. (i) Draw cell structures of RAM, ROM, DRAM, UVPROM.

(ii) Design decoding circuit to select 64 K.B of memory divided into 8 modules.

Use 74138 IC and mention address range for each module.

(iii) Differentiate between Memory mapped I/O and Isolated I/O. 5, 10, 5

UNIT-II

3. (i) Draw block diagram of 8086 µP. Explain address and data registers and Queue.

(ii) Explain control flags of 8086. Write instructions to set/ reset them.

(iii) Explain the concept of memory segmentation. 10, 5, 5

4. (i) Explain following assembler directives:

EXTRN, PUBLIC, PTR, ASSUME.

(ii) Explain following 8086 instructions:-

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LOCK, ESC, TEST, LOOP.

(iii) Write PROC to multiply two 64 bit numbers 6, 6, 8

UNIT –III

5. (i) Explain BSR and Bidirectional BUS mode of 8255.

(ii) Interface 8 bit ADC with 8255. Use interrupts driven I/O to read 10 samples.

Write ALP. 10,10

6. (i) What is successive approximation type ADC ? Explain its principle and

Draw its block diagram.

(ii) Design successive approxi. Type ADC using 8 bit DAC,8255 and 8085. 8,12

UNIT –IV

7. (i) Differentiate between Interrupt and DMA.

(ii) Explain ICWs of 8259.

(iii) Interface temperature sensor LM35 with 8086 using 8259.

Write ALP to read temperature. 4,8,8

8. Write short notes on the following:

(i) 8237 (ii) 8253. 10,10.

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