

MICROPROCESSOR BASED SYSTEM DESIGN

3K4-IFM-29

Time : 3 Hrs.

M.M. : 100

Note :—

1. Part 'A' may be attempted in first 5 pages of Answer sheet.
भाग 'क' के सभी उत्तर, उत्तर-पुस्तिका के प्रथम पांच पृष्ठों में ही करने हैं।
2. Part 'B' may be attempted in rest of the sheets of Answer sheet.
भाग 'ख' के सभी उत्तर, उत्तर-पुस्तिका के पृष्ठों में ही करने हैं।

PART - A**1. Attempt any 10 questions:**

(10 x 2 = 20)

- (i) Compare memory mapped I/O and peripheral mapped I/O.
- (ii) What is the function of parity flag?
- (iii) What is the processing element inside the microprocessor?
- (iv) List the different flags affected by the arithmetic and logic operations.
- (v) Define Simulator?
- (vi) What is bus stealing?
- (vii) What are the operating modes of 8255?
- (viii) What is key bouncing?
- (ix) List the uses of USART.
- (x) List the features of 8251.
- (xi) List the functions performed by 8279.
- (xii) What is the function of gate signal in 8254 timer?
- (xiii) Write the format of ICW1 in 8259.
- (xiv) Name the two modes used by the DMA processes to transfer data.

(5 x 4 = 20)

2. Attempt any five questions:

- (i) Draw the architecture of 8255 with a neat diagram.
- (ii) Draw the block diagram of 8279 and explain the functions of each block.
- (iii) Draw the block diagram of programmable interrupt controller and explain its operations.
- (iv) Explain the AD converter?

23
0000
1684
2221
23

- (v) Discuss the detail about the operation of timer along with its various modes.
- (vi) Write short note in Logic Analyser?
- (vii) Write instructions to load the hexadecimal number 65H in register C and 92H in accumulator.

PART - B**Attempt any three questions:****(3 X 20 = 60)**

3. (a) Explain the architecture of Intel 8085 with the help of a block diagram? (15)
- (b) Explain the similarities difference between subtract and compare instructions in 8085? (5)
4. (a) What are the different moes of operation of the 8253 programmable timer? (10)
- (b) Which mode will you use to generate a square wave? Give a flow chart to generate it on 8253. (10)
5. (a) Why the lower order address bus is multiplexed with data bus? How they will be de-multiplexed? (10)
- (b) Differentiate between maskable and non-maskable interrupts. (10)
6. Write on 8285 assembly language program using minimum number of instructions to add the 16 bit no. in BC, DE & HL. Store the 16 bit result in DE pair. (20)

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