III B.Tech II Semester Supplementary Examination – June 2018

**MICROPROCESSORS AND INTERFACING**

Time: **3** hours (CSE) Max. Marks: **60**

# SECTION – A

**Answer all ten questions 10×1M=10M**

1. Which port of 8255 can be used as two independent data ports in mode–0?
2. TxD pin carries serial stream of the transmitted data bits along with

a) Start bit b) Stop bit c) Parity bit d) All of the mentioned

1. Is the address bus unidirectional, Justify?
2. When RESET is applied to 8257 what happens to all DMA channels.
3. What are the different I/O modes in which 8255 can operate?
4. Which Stack is used in 8086?

a) FILO b) FIFO c) LIFO d) LILO

1. USART stands for \_\_\_\_\_\_\_.
2. DMA stands for \_\_\_\_\_\_\_\_.
3. Let 8086 is interfaced to two 8259s (programmable Interrupt controller). These two 8259s are in master slave configuration, and then the number of interrupts available to the 8086 is.

a) 8 b) 16 c) 15 d) 64

1. In 8259 the register that stores all the interrupt requests in it in order to serve them one by one on priority basis is

a) Interrupt request register b) In–Service register

c) Priority resolver d) Interrupt mask register

**SECTION – B**

**Answer all five questions 5×2M= 10M**

1. What is need for DMA?
2. What frequency is required for a baud rate of 1200, assuming that the 8251 is programmed for a clock? What does the baud rate become if the 8251 is reprogrammed for a clock?
3. What are the other functions of Port 3 in 8051?
4. For the software interrupt INT2, calculate the address of the locations from where the values of IP and CS are loaded.
5. Write any four features of 8051 Microcontroller.

**SECTION – C**

**Answer all four questions 4×5M = 20M**

1. With the help of timing diagram explain the memory write operation of 8086.

**(OR)**

1. Interface 4kB of ROM and 16kB of RAM to 8086. Show the memory map details.
2. Explain the functions of exclusive minimum mode pins of 8086.

**(OR)**

1. Explain the functions of exclusive maximum mode pins of 8086.
2. Draw the block diagram of 8257 DMA controller and explain the functions of each block.

**(OR)**

1. Explain the functions of the following pins of 8251:

(i) RxRDY (ii) TxRDY (iii) TxD (iv) RxD (v) TxE

1. Explain the internal and external memory organization of 8051.

**(OR)**

1. Explain the various addressing modes of 8051 with examples.

**SECTION – D**

**Answer all two questions 2×10M= 20M**

1. Draw and explain the architecture of 8086 microprocessor.

**(OR)**

1. Explain any five addressing modes of 8086 microprocessor.
2. Draw and explain the architecture of 8259 (PIC).

**(OR)**

1. Draw and explain the architecture of 8255 (PPI).