III B.Tech II Semester Examination, May 2016

**MICROPROCESSORS AND INTERFACING**

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

# SECTION – A

(Short Answer Questions)

**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

3. Is the address bus unidirectional, Justify?

4. When RESET is applied to 8257 what happens to all DMA channels.

1. What are the different I/O modes in which 8255 can operate?

6. Which Stack is used in 8086?

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

7. USART stands for \_\_\_\_\_\_\_

8. DMA stands for \_\_\_\_\_\_\_\_

9. 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 are.

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

10. 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**

11. The contents of different registers are given below. Form Effective addresses for

different addressing modes for (i) MOV AX, [BX] [SI] (ii) MOV AX, 5000H [BX] [SI]

Offset = 5000H.

[AX]- 1000H, [BX]- 2000H, [SI]- 3000H, [DI]- 4000H, [BP]- 5000H,

[SP]- 6000H, [CS]- 0000H, [DS]- 1000H, [SS]- 2000H, [IP]- 7000H

12. Explain the significance of control bus of 8086 microprocessor.

13. Show the sequence of command words use to initialize an 8259 with Edge Triggered, Only one 8259, 8086 system, interrupt type 40 corresponds to IR0 input, Normal EOI, Non- buffered mode, Not specially fully nested mode, IR1 & IR3 unmasked?.

14. Write the steps to initialize 8251 for Synchronous operation.

15. Mention two specific differences between 8086 microprocessor and 8051 microcontroller.

**SECTION – C**

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

16. Explain about the multiplexed ADD/DATA bus and ADD/STATUS bus of 8086.

**(OR)**

17. Design an interface between 8086 with two 32KX8 EPROM and two 32KX8RAM. Select starting address of EPROM Suitably and RAM at 4FFFH.

18. Write an ALP to generate a triangular wave of frequency 500Hz: 5Vp-p using the DAC 0800, Design the Interfacing between 8086 and DAC 0800.

**(OR)**

19. Explain the modes of operation of 8255 PPI with neat schematic.

20. Explain the concept of DMA with help of block diagram.

**(OR)**

21. Describe the functions of the TXD & RXD signals exchanged between a Terminal and a MODEM.

22. Draw the timing diagram for memory read operation in minimum mode.

**(OR)**

23. Explain the different pins that are used only in minimum mode of 8086.

**SECTION – D**

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

24. Explain in detail about the architecture of 8086 with the help of block diagram.

**(OR)**

25. Explain the concept of interrupts of 8086 in detail with the help of Interrupt vector table.

26. Explain in detail about the architecture of 8051 C with the help of block diagram.

**(OR)**

27. Explain in detail about the Addressing modes of 8051 C with examples.