

B.Tech II Year II Semester (R15) Supplementary Examinations December 2018

**MICROPROCESSORS & INTERFACING**

(Computer Science &amp; Engineering)

Time: 3 hours

Max. Marks: 70

**PART – A**

(Compulsory Question)

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1 Answer the following: (10 X 02 = 20 Marks)

- (a) List any four features of 8086 microprocessor.
- (b) State the significance of LOCK signal in 8086.
- (c) Differentiate near jump from far jump in 8086.
- (d) How signal stepping can be done in 8086?
- (e) Can the 8086 processor operate on more than one instruction at a time? If so explain how it is done?
- (f) If BH = 0F3H, what is the value of BH in hex after the instruction SAR BH, 1?
- (g) Using two 8259-interrupt controllers what is the maximum number of peripherals that can be provided with interrupt facility.
- (h) Name the two modes used by the DMA processes to transfer data.
- (i) List the features of the parallel ports of 8051 microcontroller.
- (j) Which of the following are illegal:  
(i) ADD R3, #50H? (ii) ADD A, #50H? (iii) ADD R7, R4H? (iv) ADD A, #255H? (v) ADD A, R5H?

**PART – B**

(Answer all five units, 5 X 10 = 50 Marks)

**UNIT – I**

2 Draw the internal architecture of 8086 microprocessor and explain its bus interface unit (BIU).

**OR**

3 Explain the classification of the instruction set of 8085 microprocessor with suitable examples.

**UNIT – II**

4 Explain about the following assembler directives: END P, EQU, EVEN, EXTRN with examples.

**OR**

5 Explain the addressing modes of 8086 with examples.

**UNIT – III**

6 Describe interrupts and interrupt response of an 8086 family process with neat sketch.

**OR**

7 Explain the following:

- (a) Interfacing printer with 8086.
- (b) Formation of system bus.

**UNIT – IV**

8 Discuss the organization and architecture of 8255 programmable peripheral interface with its functional block diagram.

**OR**

9 How to interface a DMA controller with a microprocessor? Explain how DMA controller transfers large amount of data from one memory locations to another memory location.

**UNIT – V**

10 With a neat sketch, explain the architecture of 8051.

**OR**

11 Discuss in detail about parallel I/O ports in 8051 microcontroller and explain how these ports are accessible for specific applications.