

5E5042

Roll No. \_\_\_\_\_

Total No of Pages: **3**

**5E5042**

**B. Tech. V Sem. (Main / Back) Exam., Dec. 2014**  
**Electrical Engineering**  
**5EE2A Microprocessor & Computer Architecture**

**Time: 3 Hours**

**Maximum Marks: 80**

**Min. Passing Marks: 24**

*Instructions to Candidates:*

*Attempt any **five** questions, selecting **one** question from **each** unit. All questions carry **equal** marks. Schematic diagrams must be shown wherever necessary. Any data you feel missing suitably be assumed and stated clearly.*

*Units of quantities used/calculated must be stated clearly.*

*Use of following supporting material is permitted during examination.*

*(Mentioned in form No. 205)*

1. NIL

2. NIL

### **UNIT – I**

Q. 1 (a) Explain the various types of buses used in 8085 microprocessor. [8]

(b) Draw the architecture of 8085 microprocessor and explain functions of various registers. [8]

**OR**

(a) How address lines are multiplexed? Explain in detail with the help of latching circuit diagram. [8]

(b) Explain the control and status signals available in 8085 microprocessor. [8]

## UNIT-II

- Q. 2 (a) Explain the following instructions of the 8085 microprocessor. [8]
- (i) STAX B
  - (ii) XTHL
  - (iii) XCHG
  - (iv) SPHL
- (b) Write an assembly language program for finding 2's complement of a given 8 bit number. [8]

### OR

- (a) Mention various addressing modes in 8085 with suitable example. [8]
- (b) Explain the use of rotate instructions, with the help of suitable examples. [8]

## UNIT-III

- Q. 3 (a) Explain the interfacing of 8257 to 8085 microprocessor. rtuonline.com [8]
- (b) Draw the block diagram of programmable Interval Timer 8253 and explain its various blocks. [8]

### OR

- (a) Explain the control word in 8255 PPI. What are different modes of operations possible in 8255? [8]
- (b) Draw the block diagram of 8279 and explain the function of each block. Also describe its command word format. [8]

## UNIT-IV

- Q. 4 (a) Draw internal architecture of 808. Explain the function of various registers. [8]
- (b) Draw pin diagram and explain various pins of 8086 microprocessor in minimum and maximum modes. [8]

### OR

- (a) Draw the block diagram of 8086 microprocessor, and explain the following: [8]
- (i) Pipelining concept
  - (ii) Segmented memory concept
  - (iii) Extended register concept
- (b) Explain various instruction formats application to the 8086 instruction set. Briefly describe addressing modes of 8086. [8]

## UNIT-V

- Q. 5 (a) Write short note on (any Two): [16]
- (i) Virtual Memory
  - (ii) Different types of micro operations
  - (iii) Different types of ROM
  - (iv) Cache memory
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