

5E5042

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B. Tech. V Sem. (Main/Back) Exam., Nov.-Dec.-2016  
Electrical Engineering  
5EE2A Microprocessors & Computer Architecture

Time: 3 Hours

Maximum Marks: 80

Min. Passing Marks Main: 26

Min. Passing Marks Back: 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 In detail, 8085 Microprocessor architecture with its working phenomena and usefulness. [8]
- (b) Explain the following with respect to microprocessor architecture: [8]
- (i) CPU
  - (ii) Address bus
  - (iii) Data Bus
  - (iv) Control bus

**OR**

- Q.1 (a) Describe by help of a suitable diagram the pin definitions of 8085. [8]
- (b) What are peripheral devices? Also explain the concept of memory organization for microprocessor. [8]

**UNIT – II**

- Q.2 (a) Explain various instruction clarification for 8085 microprocessor. [8]
- (b) Explain Instruction & opcode formats for 8085. [8]

**OR**

- Q.2 (a) Draw the flow chart and write instruction to multiply two 8-bit numbers. [8]
- (b) Write short note on counter & time delay. [8]

**UNIT – III**

- Q.3 (a) With the help of a suitable block diagram explain the interfacing of 8255 chips, and its application. [8]
- (b) Explain the utilization and interference techniques of 8259. [8]

**OR**

- Q.3 (a) Explain the concept of keyboard interfacing for 8279. [8]
- (b) By help of suitable diagram explain the concept of A/D conversion in 8279. [8]

**UNIT – IV**

- Q.4 (a) Explain the architecture of Intel 8086 and explain its bus interface unit & execution unit. [8]
- (b) For 8086, microprocessor architecture explain the memory addressing & memory segmentation. [8]

**OR**

- Q.4 (a) With reference to instruction set of 8086 explain addressing mode & processor control. [8]
- (b) Explain hardware & software interrupts & response of 8086. [8]

**UNIT – V**

- Q.5 (a) Explain the Basic Central Processing Unit with help of diagram. Also explain its need & application. [8]
- (b) Explain the following type of memory - [8]
- (i) Static & Dynamic memory.
  - (ii) Primary & Secondary memory.

**OR**

- Q.5 (a) Explain ROM architecture and different type of ROM in detail. [8]
- ✓ (b) Write short note on: [8]
- ✓ (i) SDRAM, RDRAM
- (ii) Flash & cache memory