

5E5042

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

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5E5042

B. Tech V Sem. (Main/Back) Exam. Nov-Dec. 2015

Electrical Engineering

5EE2A Microprocessor & 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.*

1. NIL

2. NIL

**UNIT-I**

- Q.1 (a) Name the various types of buses in 8085 microprocessor. Explain the function of each in brief. [4+4=8]
- (b) Draw pin diagram of 8085 microprocessor and explain its various pins. [4+4=8]

**OR**

- Q.1 (a) What is program status word in 8085? Explain in detail. [4+4=8]
- (b) What are various interrupts available with 8085? Distinguish between markable and nonmarkable interrupts. [4+4=8]

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**UNIT-II**

- Q.2 (a) Explain the following instructions using suitable examples - [2×4=8]  
(i) XCHG  
(ii) DAD  
(iii) DAA  
(iv) LHL
- (b) Explain various addressing modes of 8085 using suitable examples. [8]

**OR**

- Q.2 (a) Write an assembly language program to add two 16 bit numbers 22A3H and 1060H using ADC instruction. Store the result in memory. [12]  
(b) Name the various machine cycles of 8085. [4]

**UNIT-III**

- Q.3 (a) Explain 8259 chip with the help of block diagram. [8]  
(b) Name various modes of operation in 8253. [8]

**OR**

- Q.3 (a) Explain interfacing of 8257 with 8085 using block diagram. [8]  
(b) Define working of A/D converter with the help of diagram. [8]

**UNIT-IV**

- Q.4 (a) Draw architecture of 8086. Explain the function of various registers. [4+4=8]  
(b) Differentiate between 8085 and 8086. [8]

**OR**

- Q.4 (a) What are various addressing modes of 8086? [8]  
(b) What do the following instructions do? Explain using suitable examples. [2×4=8]  
(i) DIV  
(ii) JG  
(iii) NEG  
(iv) MUL

**UNIT-V**

- Q.5 (a) Define memory and its various types in detail. [8]  
(b) What do you understand by terms memory latency, memory seektime and memory bandwidth? [8]

**OR**

- Q.5 (a) Differentiate between: [4+4=8]  
(i) Flash and Cache memory.  
(ii) Static and Dynamic memory.  
(b) Define PAL and PLA using suitable diagram. [4+4=8]
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