

6E3086

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B. Tech. VI Semester (Main/Back) Exam. May/June, 2013

ELECTRONICS &amp; COMMUNICATION ENGINEERING # 6EC2

**MICROPROCESSOR AND MICROCONTROLLER**

Time : 3 Hours

Min. Passing Marks : 24

Maximum Marks : 80

**Instruction 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.)

**Unit-I**

of 8085 and explain them. [8]

1. Explain the details of CPU and functioning of data bus, address bus and control bus. [16]

**OR**

1. Explain the followings :

- (i) Encoder  
(ii) Buffer  
(iii) Latch  
(iv) I/P and O/P devices [4×4 = 16]

**Unit-II**

2. Draw the pin diagram (40 pins) of 8085 microprocessor and explain the significance of every pin in detail. [16]

**OR**

2. (a) What is meant by a register? Explain its merits/demerits over a memory location. [8]  
(b) Discuss in details the various interrupts available in 8085 microprocessor. [8]

**Unit-III**

3. (a) Explain the working of RST instructions and their use. [8]  
(b) List the conditional call and return instructions

3. (a) Explain the role and purpose of program counter and instruction register. [8]

- (b) What are subroutines? How they are useful? [8]

**Unit-IV**

4. Draw the pin diagram of programmable peripheral interface chip (8255) and explain its various operational modes. [16]

**OR**

4. Draw the pin diagram of programmable interrupt controller (8259) and also explain the various registers used in it. [16]

**Unit-V**

5. What is a microcontroller? What are its typical applications? Also, explain the salient features of 8051 microcontroller along with its pin diagram. [16]

**OR**

5. Explain in detail the various addressing modes and instructions available in 8051 microcontroller. [16]