

2054

**B.E. (Electrical and Electronics Engineering)-4<sup>th</sup> Semester**  
**PC-EE-404: Microprocessor and Microcontroller** ✓

Time allowed: 3 Hours

Max. Marks: 50

**NOTE:** Attempt five questions in all, including Question No. 1 which is compulsory and selecting two questions from each unit.

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**1. Attempt the following: -**

- (a) Illustrate the memory address range of chip with 128 bytes of memory.
- (b) Differentiate between Absolute Decoding and Partial decoding.
- (c) Explain function of the ALE and READY pins of 8085.
- (d) How is Data Pointer different from Program Counter in 8051?
- (e) What is the function Of Register B in 8051? (5×2)

**UNIT-I**

2. (a) What is the role of Stack & Subroutines? Write instructions associated with Stack. (5)
- (b) Write an assembly language program for 8085 to separate positive and Negative numbers in a string of 20 data bytes. (5)
3. (a) A string of data bytes is stored starting from memory location XX50H and end of the String is indicated by the byte 0DH. WAP to relocate the bytes to address XX80H after Adding 05H to each byte. (5)
- (b) Discuss the various addressing Modes of 8085 giving examples. (5)
4. (a) Discuss SIM and RIM in 8085. (4)
- (b) What is the maximum delay generated using 16 bit Register pair and 2 MHz crystal for 8085. Show calculations and write program for the Delay subroutine. (6)

**UNIT-II**

5. (a) Give block diagram of Programmable Peripheral interface 8255. (5)
- (b) Discuss the control word for BSR and I/O Modes. (5)
6. (a) Discuss Memory organization of 8051. (5)
- (b) Design a schematic for interfacing a memory 2048 x 8 with 8085 Using a 74LS138 (3 to 8 decoder) ,thereby generating address range for the Memory IC C000H to C7FFH (5)
7. Write short notes on any three of the following:- (10)
  - (a) Handshaking in Serial communication
  - (b) Interrupts Priority in 8085
  - (c) Peripheral Mapping
  - (d) RS232C

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