

March 2015

Time: 2.00 hrs

Marks : 50

- Q.1 (A) Select the correct alternative and rewrite the following (4)**
- a) \_\_\_\_\_ instruction would not affect zero flag  
(i) XRA A (ii) SUB A  
(iii) CMP A (iv) MVI A, 00H
- b) Data bus a 80286 MPU is of size \_\_\_\_\_  
(i) 8 bit (ii) 16 bit  
(iii) 32 bit (iv) 64 bit
- c) \_\_\_\_\_ is used to store 8 bit opcode in 8085.  
(i) IR (ii) PC  
(iii) SP (iv) Accumulator
- d) The device used to extend cable length of a network is \_\_\_\_  
(i) MODEM (ii) REPEATER  
(iii) HUB (iv) ROUTER
- (B) Answer any two of the following : (6)**
- a) Draw block diagram of generic microprocessor  
b) State any six features of 8051 microcontroller  
c) What is HUB ? Explain all the types of HUB.
- Q.2 (A) Answer any two of the following : (6)**
- a) Explain multiplexed Address and Data Bus of 8085 MPU.  
b) Explain Star and Bus network topology  
c) State any six arithmetical and logical instructions of 8085 MPU.
- (B) Answer any one of the following : (4)**
- a) What are the Hardware interrupts ? Explain vectored and Non-vectored interrupts of 8085 MPU.  
b) Explain the following instructions of 8085 MPU :  
i) MOV B.M. ii) ADC C  
iii) SPHL iv) XCHC
- Q.3 (A) Answer any two of the following : (6)**
- a) What is a single chip computer ? State its advantages.  
b) State any three features of Pentium processor.  
c) Explain Ethernet protocol used in network.
- (B) Answer any one of the following : (4)**
- a) Explain PUSH and POP instructions of 8085  
b) Explain any four flags of 8085 giving example.

**Q. 4 (A) Answer any two of the following : (6)**

- a) Explain function of the following pins of 8085:
- b) State any six applications of microcontrollers
- c) Compare twisted pair cable and coaxial cable.

**(B) Answer any one of the following : (4)**

- a) Explain the following ;
  - i) T-States
  - ii) Machine Cycle
  - iii) Instruction cycle
  - iv) FETCH Cycle
- b) Give advantages of Fiber Optic cable over an electrical cable

**Q. 5 (A) Answer any two of the following : (10)**

- a) Write ALP is multiply number stored at 8085H by 09H and store result at 8086 H and 8087H, with lower byte at 8086H.
- b) Write ALP to find 2's complement of a 16 bit number stored in DE pair store result in HL pair.
- c) Locate smallest number in a block from 2050H to 2060 H and store it in memory location 2061H.

OR

- a) Write ALP to store data BCH in 20 continuous memory locations starting from 8081H.
- b) Write ALP to divide number at 6068H by a non-zero number at 6067 H, Store quotient at 6069H and remainder at 606AH.
- c) Writ ALP to clear register B, if number at memory location 20F9H is palindrome: otherwise store FFH in register B.