

DAY - 20

SEAT NUMBER

0 7 1 0 4 2

2018 III 17

1100

V - 468

(E)

COMPUTER SCIENCE

PAPER - II (D-9)

Time : 3 Hours

4 Pages

Max. Marks : 50

- Instructions :**
- (1) All questions are compulsory.
 - (2) Figures to the right indicate full marks.
 - (3) Draw neat diagrams wherever necessary.
 - (4) Use of any type of calculator is not allowed.
 - (5) Comments are must in Assembly Language Programs.

1. (A) Select correct options and rewrite the following :
- (a) Intel 8085 is a/an _____ bit Microprocessor. 1
- (i) 16
 - (ii) 4
 - (iii) 8
 - (iv) 32
- (b) The instruction PCHL belongs to _____ group. 1
- (i) Data transfer
 - (ii) Logical
 - (iii) Arithmetic
 - (iv) Branching
- (c) Stack pointer of 8085 holds _____. 1
- (i) 8 bit address
 - (ii) 16 bit data
 - (iii) 16 bit address
 - (iv) 8 bit data

- (d) The instruction set of intel 8051 Micro-controller contains total _____ instruction. 1
- (i) 111
- (ii) 72
- (iii) 74
- (iv) 100
- (B) Answer **any two** of the following :
- (a) Explain the function of following pins on Intel 8085 : 3
- (i) \overline{RD}
- (ii) \overline{WR}
- (iii) IO / \overline{M}
- (b) Explain direct and immediate addressing modes of Intel 8085 with suitable examples. 3
- (c) Explain any three important features of pentium processor. 3
2. (A) Answer **any two** of the following :
- (a) Write the RAM and ROM size of 8048, 8049 and 8050 Microcontrollers. 3
- (b) Explain Fiber-optic Cable with a neat diagram. 3
- (c) Explain the conditional CALL instructions of Intel 8085. 3
- (B) Answer **any one** of the following :
- (a) Draw the functional block diagram of Intel 8085. 4
- (b) Explain in brief the following access method : 4
- (i) Contention
- (ii) Token Passing
3. (A) Answer **any two** of the following :
- (a) What do you mean by Interrupt ? List all the software interrupts of Intel 8085. 3
- (b) The Registers A and C of 8085 contain the data E2H and 47_H. What will be the contents of Accumulator in Hex digits after execution of each of the following instructions independently ? 3
- (i) SUB C
- (ii) XRA C
- (iii) ADD C
- (c) Draw a bit pattern of flag register of Intel 8085 and write the functions of any four flags. 3

- (B) Answer **any one** of the following :
- (a) Explain in brief the following connectivity devices : 4
- (i) Repeater
- (ii) Router
- (b) Define the terms - Machine Cycle, Instruction Cycle and T-state with a timing diagram. 4
4. (A) Answer **any two** of the following :
- (a) Explain the function of following instructions of Intel 8085 : 3
- (i) $L \times I H$, 2900H
- (ii) LDA 6605H
- (iii) PUSH B
- (b) Explain the function of ALU with a simple block diagram. 3
- (c) What do you mean by Protocol ? Explain the concept of TCP/IP Protocol. 3
- (B) Answer **any one** of the following :
- (a) What is Microcontroller ? State any six important features of Intel 8051 Microcontroller. 4
- (b) Explain Ring and Star Topologies with simple diagrams. 4
5. Answer **any two** of the following :
- (a) Write an Assembly Language Program to multiply an 8-bit number stored at 4301H by another 8-bit number stored at 4302H. Store the result at the location 4303H and 4304H beginning with LOB. (Lower Order Byte) 5
- (b) Write an Assembly Language Program to fill in the memory locations starting from 6900H and onward with the decimal numbers 0 to 99. 5
- (c) Write an Assembly Language Program to take the 2's complement of an 8-bit number stored at 3301H. Store the result at the memory location 3302H. 5

OR

5. Answer **any two** of the following :

- (a) Write an Assembly Language Program to count the occurrence of the data byte ACH in a memory block stored from 7401H to 7405H. Store the count at the memory location 7406H. 5
- (b) Write a subroutine in assembly language to fill the memory locations 7301H to 73FFH with the hexadecimal numbers 01H to FFH respectively. 5
- (c) Write an Assembly Language Program to count the total number of even data bytes occurring in a block of data stored from 9201H to 920AH. Store the result (count) at the memory location 9500H. 5