DAY - 14 SEAT NUMBER | | | | | | |

2015	III	14	1100	V – 668	(E)

COMPUTER SCIENCE
PAPER - II (D-9)

Time : 3 Hours	3 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 ALP.

1. (A) Select correct options and rewrite the following :

(a) _____ Instruction would not affect Zero Flag. **1**

(i) XRA A

(ii) SUB A

(iii) CMP A

(iv) MVI A, 00H

(b) Data bus of 80286 MPU is of size _____. **1**

(i) 8 bit

(ii) 16 bit

(iii) 32 bit

(iv) 64 bit

(c) _____ is used to store 8 bit opcode in 8085. **1**

(i) IR

(ii) PC

(iii) SP

(iv) Accumulator

(d) The device used to extend cable length of a network is _____. 1

(i) MODEM

(ii) REPEATER

(iii) HUB

(iv) ROUTER

(B) Solve **any two** of the following :

(a) Draw block diagram of Generic Microprocessor. 3

(b) State any six features of 8051 Microcontroller. 3

(c) What is HUB ? Explain all the types of HUB. 3

2. (A) Solve **any two** of the following :

(a) Explain Multiplexed Address and Data Bus of 8085 MPU. 3

(b) Explain Star and Bus Network Topology. 3

(c) State any six Arithmetical and Logical Instructions of 8085 MPU. 3

(B) Solve **any one** of the following : https://www.maharashtrastudy.com

(a) What are the Hardware Interrupts ? Explain Vectored and Non-vectored Interrupts of 8085 MPU. 4

(b) Explain the following instructions of 8085 MPU : 4

(i) MOV B, M

(ii) ADC C

(iii) SPHL

(iv) XCHG

3. (A) Solve **any two** of the following :

(a) What is a Single Chip Computer ? State its advantages. 3

(b) State any three features of Pentium Processor. 3

(c) Explain Ethernet Protocol used in Network. 3

(B) Solve **any one** of the following :

(a) Explain PUSH and POP Instructions of 8085. 4

(b) Explain any four flags of 8085, giving example. 4

4. (A) Solve **any two** of the following :

(a) Explain function of the following pins of 8085 : **3**

(i) $\overline{INTA}$

(ii) IO/$\overline{M}$

(iii) $\overline{RD}$

(b) State any six applications of Microcontrollers. **3**

(c) Compare Twisted Pair Cable and Coaxial Cable. **3**

(B) Solve **any one** of the following :

(a) Explain the following : **4**

(i) T-States

(ii) Machine Cycle

(iii) Instruction Cycle

(iv) FETCH Cycle

(b) Give advantages of Fiber Optic Cable over an Electrical Cable. **4**

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

(a) Write ALP to multiply number stored at 8085H by 09H and store result at 8086H and 8087H, with lower byte at 8086H. **5**

(b) Write ALP to find 2's complement of a 16 bit number stored in DE Pair. Store result in HL Pair. **5**

(c) Locate smallest number in a block from 2050H to 2060H and store it in memory location 2061H. **5**

OR

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

(a) Write ALP to store data BCH in 20 contiguous memory locations starting from 8081H. **5**

(b) Write ALP to divide number at 6068H by a non-zero number at 6067H. Store quotient at 6069H and remainder at 606AH. **5**

(c) Write ALP to clear Register B, if number at memory location 20F9H is Palindrome; otherwise store FFH in Register B. **5**

[Palindrome No. Ex. FF, 22, AA]