

DAY - 18

SEAT NUMBER

071042

2018	III	15	1100	V - 434	(E)
COMPUTER SCIENCE PAPER - I (D-9)					
Time : 3 Hours		4 Pages		Max. Marks : 50	

- Instructions :**
- (1) All questions are compulsory.
 - (2) Figure to the right indicate full mark.
 - (3) Use of any type of calculator not allowed.
 - (4) Draw a neat diagram wherever necessary.

1. (A) Select the correct alternative from the following and rewrite sentence :

(a) If the page size for 2 MB memory is 2KB then the number of higher order bits on address bus used to denote page number is _____. 1

- (i) 11
- (ii) 10
- (iii) 9
- (iv) 8

(b) Data items are divided into sub item is called as _____. 1

- (i) Group Item
- (ii) Elementary Item
- (iii) Nodes
- (iv) Arrays

(c) Object is a are _____. 1

- (i) Variable
- (ii) Data type
- (iii) Run Time Entity
- (iv) Both (i) and (iii)

- (d) In HTML, for Red colour, RGB code is _____ 1
- (i) # 00 00 00
 - (ii) # ff 00 00
 - (iii) # 00 ff 00
 - (iv) # 00 00 ff
- (B) Answer **any two** of the following :
- (a) What is File System ? Explain tape based and disk based file system. 3
 - (b) What is VDU ? Explain following terms of VDU : 2 3
 - (i) Dumb Terminal
 - (ii) Intelligent Terminal
 - (c) What is Array ? Write an algorithm for Traversing Linear Array. 3
2. (A) Answer **any two** of the following :
- (a) Define OOP. Write its features. 3
 - (b) Explain and tag used in HTML with example. 3
 - (c) Explain how member functions of class can be defined outside the class definition and inside class definition with example in C++. 3
- (B) Answer **any one** of the following :
- (a) Write the use of following file pointers with example : 4
 - (i) seekg()
 - (ii) seekp()
 - (iii) tellg()
 - (iv) tellp()
 - (b) What is GUI ? Explain the following components of GUI : 4
 - (i) Menu Bar
 - (ii) Title Bar
 - (iii) Scroll Bar
3. (A) Answer **any two** of the following :
- (a) Explain the following process states : 3
 - (i) Running State
 - (ii) Ready State
 - (iii) Blocked State
 - (b) Explain Constructor and Destructor with example in C++. 3
 - (c) What is Data Structure ? Explain Linear Data Structure and Non-linear Data Structure. 3

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

- (a) Write any eight basic rules for virtual function that satisfies the compiler requirements. 4
- (b) Define Security. Explain the different elements of security. 4

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

- (a) Differentiate between Traditional Procedural Programming Approach and Object Oriented Programming Approach. 3
- (b) Define following Terms : 3
- (i) Group Item
- (ii) Elementary Item
- (iii) Entity
- (c) What is Binary Tree ? With suitable example show the relationship between Total Number of Nodes and Depth of Binary Tree. 3

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

- (a) What is Record ? Explain how records are represented in memory using array ? 4
- (b) Explain following terms in case of Process Scheduling : 4
- (i) Turn-around Time
- (ii) Waiting Time
- (iii) Terminal Response Time
- (iv) Event Response Time

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

- (a) Write a C++ program to accept an integer number and test whether it is prime or not. 5
- (b) Write a program in C++ using OOP technique to compute circumference of circle. 5
- (c) Write HTML code for following output : 5

Cricket Analysis

Country	Played	Won	Lose
INDIA	30	27	03
PAKISTAN	30	03	27

OR

5. Solve any two of the following :

(a) Write a C++ program to find the smallest of four given integers using function min() that returns the smallest of four given integers. The function prototype is as below int min (int, int, int, int). 5

(b) Write an object oriented program in C++ to read an integer number and find the sum of digits of integer [Hind : input 125 output 8 i.e. 1+2+5=8] 5

(c) Write the output of the following HTML code : 5

```
<html>
<body>
<UL type = "circle">
</i> One
</i> Two
</i> Three
<UL type = "square">
</i> Monday
</i> Tuesday
</i> Wednesday
</UL>
</UL>
</body>
</html>
```

Country	Played	Won	Lost
INDIA	30	21	09
PAKISTAN	30	09	21

OR

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