DAY - **18**    SEAT NUMBER ✕✕✕✕

| 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 :    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 <OL> and <UL> 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 :

      (i) Turn-around Time

      (ii) Waiting Time

      (iii) Terminal Response Time

      (iv) Event Response Time    **4**

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**

<div align="center">

**Cricket Analysis**

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

</div>

<div align="center">OR</div>

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

_____