



## PON VIDYASHRAM GROUP OF CBSE SCHOOLS

### VACATION HOME TEST (2017-2018)

STD XI

COMPUTER SCIENCE - ①

M.M: 70

#### Instructions:

- {1} All Questions are compulsory.
- {2} Programming language : c++

- Q.1** [A] Explain functional components of a Computer? 2  
[B] Write different between application software and system software. 2  
[C] Define Hybrid computer? 1  
[D] What function of operating system plays to manage memory. 1
- Q.2** [A] Write differences between logical errors and syntax errors. 2  
[B] What do you mean by robustness of a program. 2  
[C] What is guard code. 1  
[D] What is the process of translation of the algorithm into a program, called? 1  
[E] What are the characteristics of a good program? 2  
[F] Name two types of compilation errors? 2
- Q.3** [A] Name the header files to which the following belongs to : 2  
(i) getch() (ii) isdigit() (iii) sqrt() (iv) atoi()
- [B] Write output for following code: 2  

```
int val, n=1000,;  
cin >> val;  
res = n + val > 1500 ? 100 : 200;  
cout << res;
```

  - i) If the input is 1000.
  - ii) If the input is 200.
- [C] Write the equivalent c++ expressions- 2  
(1)  $p = 2(1+b)$   
(2)  $z = 2(p/q)^2$   
(3)  $s = 1/2mv^2$   
(4)  $x = -b + \sqrt{(b^2 - 4ac)} / 2a$
- [D] Write difference between keyword and identifier. 2
- Q.4** [A] Draw a flowchart that print the smallest of three given no. 2  
[B] Rewrite the following program after removing syntactical errors, underline each 2  
Correction.

```
#include<iostream.h>
Void main()
{
    const MAX = 0 ;
    int a, b;
    cin<<a>>b;
    if(a > b )
    MAX = a;
    for(x=0;x<MAX; x++)
    cout<<x;
}
```

[C] Write a program in c++ to print Fibonacci series:- 3  
 0,1,1,2,3,5,8 .....

[D] Write a program in c++ to find out factorial of a given no. 3

Q.5 [A] Write a program in c++ to replace every space in a string with hyphen. 2

[B] Find the total no. of elements and total size of the following array: 2

(i) int student[20]                      (ii) float A[4][5]

[C] Rewrite the following program after removing syntactical errors, underline each 2  
 Correction.

```
#include<iostream.h>
main()
{
    int sum[2,4];
    for(i=0;i<2;i++)
        for(j=0;j<=3;i++)
            { cout<<sum;
            }
}
```

[D] Find out the output for the following program: 4

```
#include<iostream.h>
main()
{
    int a[5]= {5,10,15,20,25};
    int i, j,k=1,m;
    i = ++a[1] ;
    j= a[2]++;
    m= a[i++];
    cout<<i<<j<<k<<m;
}
```

[E] Write a program in c++ to find row and column sum of a matrix . 3

[F] Give the proper array declaration for the following :- 2

- (i) Declare an integer array A which can hold 30 values.
- (ii) declare a two dimensional array called MIN ,4\* 5 of integer.

**Q.6[A]** What are the 3 steps using a function . 3

**[B]** Find the output of the following program: 2

```
#include<iostream.h>
void Execute (int& x,int y=200)
{
    int temp = x + y;
    x+= temp;
    if(y!=200)
    cout<<temp<<x<<y;
}
main( )
{
    int a = 50,b=20;
    Execute(a,b);
    cout<<a<<b;
}
```

**[C]** Write a function in C ++ having 2 parameters x and n of integer type with result type float to find the sum of following series :-

$1 + x/2! + x^2/ 3! + \dots + x^n/n+1!$  3

**[D]** Write a program to calculate the sum of n natural numbers by using function. 3

**Q. 7[A]** Convert the following into its binary equivalent codes. 4

**(i)**  $(84)_{10} = (?)_2$

**(ii)**  $(2C9)_{16} = (?)_{10}$

**(iii)**  $(101010)_2 = (?)_{10}$

**(iv)**  $(3674)_8 = (?)_2$

**[B]** Express -4 in 1's complement form. 1

**[C]** What is the function of a bus . 1

**[D]** Write two types of cache memory. 2

**[D]** write difference between SRAM and DRAM. 2

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