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**XII-COMPUTER SCIENCE (2017-18)**  
**HOMEWORK –SUMMER VACATION**

- 1.(a) Differentiate between Actual and Formal parameters . Also give suitable C++ code to illustrate both.
- (b) What is function overloading ? Give a suitable example of the same.
- (c) What is the difference between Global Variable and Local Variable?
- (d) What is an inline function? Specify the conditions when you cannot create inline function?.

2.(a) Name the Header file(s) .

- (i) strlen()                      (ii) random()

(b) Write the names of the header files to which the following belong:

- (i) frexp()                      (ii) isalnum()

(c) Write the names of the header files, which are essentially to run the following C++ code .

```
void main()
{
    char ch,Text[ ]="+ve attitude";
    for( int i=0;Text[i] != '\0'; i++)
        if(Text[i]==' ')
            cout<<endl;
        else
        {
            ch=toupper( Text[i])
            cout<<ch;
        }
}
```

3 (a) Give the **output** of the following program :

```
#include<iostream.h>
void changecont( int arr[ ], int count)
{
    for( int c=1;c<count;c++)
        arr[c-1]+=arr[c];
}
void main()
{
    int a[ ]={ 3,4,5}, b[ ]={10,20,30,40}, c[ ]={900, 1200};
    changecont(a, 3);
    changecont(b, 4);
    changecont(c, 2);
    for( int l=0;l<3;l++) cout<<a[l]<<"#";
        cout<<endl;
    for( l=0;l<4;l++) cout<<b[l]<<"#";
        cout<<endl;
    for( l=0;l<2;l++) cout<<c[l]<<"#";
        cout<<endl;
}
```

(b) In the following program ,if the value of N given by user is 20 , what maximum and minimum values the program could possibly display.?

```
#include<iostream.h>
#include<stdlib.h>
void main()
{
    int N, guessnum;
    randomize();
    cin>>N;
    guessnum = random(N-10) + 10;
    cout<<guessnum<<endl;
}
```

(c) Read the following C++ code carefully and find the correct possible out given options.

```
void main()
{
    randomize();
    int p=99,q=999;
    int x=random(3)+4;
    int y=random(2)+2;
    for(int i=0; i<x; i++)
    cout<<' #'<<p<<' - \'
    for(i=0; i<y ; i++)
    cout<<'@'<<q<<endl;
}
```

- (i) #####99-@@@999                      (ii) ##99-@@999  
 (iii) ##99-@999                          (iv) #####99-@@999

(d) Give the output of the following program :

```
void main( )
{
    char NAME[] = "Mind@work!";
    for( int x=0;NAME[x]!='\0';x++)
        if(isalpha(NAME[x])
            NAME[x] = "*";
        else if(isupper (NAME[x]))
            NAME[x] = NAME[x] +1;
        else
            NAME[x]=NAME[x+1];
    cout<<NAME;
}
```

4. (a) Rewrite the following program after removing syntactical error(s) if any. Underline each correction.

```
#include<iostream.h>
#define SIZE =10
VOID MAIN()
{
    int a[SIZE]={10,20,30,40,50};
    float x=2;
    SIZE=5;
```

```

for(int i=0;i<SIZE;i++)
    cout<<a[i]%x;    }

```

- (b) Rewrite the following program after removing syntactical error(s) if any. Underline each correction.

```

#include<iostream.h>
typedef char[80];
void main()
{
    String S="Peace";
    int L=strlen(S);
    cout<<S<<' has' <<L<<' characters' <<endl;
}

```

- (c) Rewrite the following program after removing syntactical error(s) if any. Underline each correction.

```

#include<iostream.h>
typedef char[80];
void main()
{
    String S="KENDRIYA";
    int L=strlen(S);
    cout<<S<<' has' <<L<<' characters' <<endl;
}

```

- 5.(a) Answer the questions (i) and (ii) after going through the following class :

```

class Exam
{
    int Rno, Maxmarks , Mimmarks, marks;
    public:
        Exam()
        { Rno=101; Maxmarks=100; Mimmarks=40; marks=75;}

        Exam(int prno, int pmarks)
        { Rno=prno; Maxmarks=100; Mimmarks=40; marks=pmarks;}

    ~Exam()
        { cout<< "Exam Over"<<endl;}

    void show()
    {
        cout<<Rno<<" : "<<Maxmarks<<" : "<<Minmarks<<endl;
        cout<<" [Marks Got]"<<Marks<<endl;
    }
}

```

- (i) As per Object Oriented Programming , Which concept is illustrated by Module 1 and 2.  
(ii) what is Module 3 referred as .? when do you think, Module 3 will be invoked.?

- (b) Answer the questions (i) and (ii) after going through the following class :

```

class std
{
    float m;
    char name[20];
    public:
        std( )           //constructor 1
}

```

```

        { m=0;
          name='\0';
        }
        std( std &s); //constructor 2
    };

```

- i) Write c++ statement such that it invokes constructor 1.
- ii) Complete the definition for constructor 2.

(c) Answer the questions (i) and (ii) after going through the following class :

```

class Registration
{
int roll;
char name[30];
public:
Registration (int PN, char n[]); //Function 1
Registration (); //Function 2
Registration (Registration &R); //Function 3
~ Registration(); //Function 4
void input();
void output();
};
void main()
{
Registration R1(101,"Mohan"); // Statement 1
}

```

- (i) Which of the functions out of Function 1, 2 or 3 will get executed when the Statement 1 is executed in the above code.? When Function 4 will execute.?
- (ii) Write a statement to declare a new object with reference to already existing object R1 using Function 3 and complete the definition of function 3.

6.(a) Define a class APPLICANT in C++ with the following description.

**Private Members:-**

- A data member ANo ( Admission Number) of type long
- A data member Name of type string
- A data member Agg(Aggregate Marks) of type float
- A data member Grade of type char
- A member function GradeMe( ) to find the Grade as per the Aggregate Marks obtained by a student. Equivalent Aggregate marks range and the respective Grades are shown as follows

Aggregate Marks	Grade
> = 80	A
Less than 80 and > = 65	B
Less than 65 and > = 50	C
Less than 50	D

**Public Members:-**

A function Enter( ) to allow user to enter values for ANo, Name, Agg & call function GradeMe( ) to find the Grade

A function Result ( ) to allow user to view the content of all the data members.

(b) Define a class HOTEL in C++ with the following description

**Private members:**

Rno // data member to store room no.  
Name //data member to store customer name  
Tariff // data member to store per day charge  
NOD // data member to store number of days of stay  
CALC() //A function to calculate and return Amount as  
NOD \* Tariff and if the value of NOD \* Tariff is  
More than 100000 then as 1.05 \* NOD \* Tariff.

**Public Member functions:**

Checkin() //to enter contents Rno ,Name ,Tariff and NOD  
Checkout() //to display Rno ,Name ,Tariff , NOD and Amount to  
be displayed by calling function CALC().

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