



SHREE VALLABH ASHRAM'S MCM KOTHARI INTERNATIONAL GIRLS'
RESIDENTIAL SCHOOL, KILLA PARDI
PERIODIC TEST I - 2018-19

CLASS XII

COMPUTER SCIENCE (083)

M.M 50; TIME 3HRS

23/07/18

Instructions:

- All questions are compulsory
- Programing Language: C++

Q1.

- a) Define Macro with suitable example. 2
- b) Which C++ header file (s) will be included to run /execute the following C++ code? 1
- ```
void main()
{
int Last =26.5698742658;
cout<<setw(5)<<setprecision(9)<<Last;
}
```
- c) Will the following program execute successfully? 2
- If no, state the reason(s) :
- ```
#include<iostream.h>
#include<stdio.h>
#define int M=3;
void main( )
{
const int s1=10;
int s2=100;
char ch;
getchar(ch);
s1=s2*M;
s1+M = s2;
cout<<s1<<s2 ;
}
```
- d) Find the output of the following program: 3
- ```
#include<iostream.h>
class METRO
{
int Mno, TripNo, PassengerCount;
public:
METRO(int Tmno=1) { Mno =Tmno; PassengerCount=0;}
void Trip(int PC=20) { TripNo++, PassengerCount+=PC};
void StatusShow()
{
cout<<Mno<< ":"<<TripNo<< " :"<<PassengerCount<<endl;}
};
void main()
{
METRO M(5), T;
M.Trip();
M.StatusShow();
T.StatusShow();
M.StatusShow();
}
```
- e) #include<iostream.h> 3
- ```
void repch(char s[])
{
for (int i=0;s[i]!='\0';i++)
{
if(((i%2)!=0) &&(s[i]!=s[i+1]))
```

```

    {
    s[i]='@';
    }
    else if (s[i]==s[i+1])
    {
    s[i+1]='!';
    i++;
    }
    }
}
void main()
{
    char str[]="SUCCESS";
    cout<<"Original String"<<str
    repch(str);
    cout<<"Changed String"<<str;
}

```

- f) Find the output of the following : 3

```

#include<iostream.h>
void switchover(int A[ ],int N, int split)
{
    for(int K = 0; K<N; K++)
    if(K<split)
    A[K] += K;
    else
    A[K]*= K;
}
void display(int A[ ],int N)
{
    for(int K = 0; K<N; K++)
    (K%2== 0) ?cout<<A[K]<<"%" : cout<<A[K]<<endl;
}
void main( )
{
    int H[ ] = {30,40,50,20,10,5};
    switchover(H,6,3);
    display(H,6);
}

```

- g) Observe the following C++ code and find out , which out of the given options i) to iv) are the expected correct output. Also assign the maximum and minimum value that can be assigned to the variable 'Go'. 2

```

void main()
{
int X [4] ={100,75,10,125};
int Go = random(2)+2;
for (inti = Go; i< 4; i++)
cout<<X[i]<<"$$";
}

```

i. 100\$\$75
ii. 75\$\$10\$\$125\$\$
iii. 75\$\$10\$\$
iv. 10\$\$125\$

Q2.

- a) What is default constructor? How is it different from destructor? 2

- b) Answer the following questions based on the below given code 4

```

class Book
{
char Book_Name[20];

```

```

char Author[20];
int pages;
public:
void reading();
void display();
};
class Textbook:private book
{
int chapters;
int examples;
protected:
int std;
public:
void readingTextbook();
void DisplayTextbook();
};
class Computerbook: protected TextBook
{
char content[20];
public:
void readingCSBook();
void DisplayCSBook();
}

```

- i. Name the members, which can be accessed from the member function of class ComputerBook.
- ii. Name the member, which can be accessed by an object by an object of class Textbook.
- iii. Name the members, which can be accessed by an object of class ComputerBook.
- iv. What will be the size of an object (in bytes) of class Computer Book.

- c) Define a class named House in C++with the following descriptions 4

Private members

House_no integer [ranges 10-100]
Name array of characters (string)
HouseType of charterer type
Cost float

Public members

Read_input() function to read an object of House type
Show() function to show the details of an object.
Draw_nos() function to choose and display the details of 2 houses selected randomly
from array of 10 objects of type house. Use the random function to generate the house number to match House_no from an array

- d) In the following program, find the correct possible output from the given options 2

```

#include <iostream.h>
#include <stdlib.h>
void main()
{
randomize();
char color[ ][20] = ["White","Green","Blue","Yellow"];
int paint;
for(int i=0;i<=2;i++)
{
paint = random(2) + 1;
cout<<color[paint]<<" ";
}
}

```

Output:

- i. Blue : Green : Yellow

- ii. White : Blue : Green
 - iii. Blue : White : Yellow
 - iv. White : Blue : Yellow
- e) What will be the output of the following program : 3

```
#include<iostream.h>
#include<ctype.h>
#include<conio.h>
#include<string.h>
void ChangeString(char Text[], int &Counter)
{
char *Ptr = Text;
int Length = strlen (Text);
for ( ;Counter<Length-2; Counter+=2, Ptr++)
{
* (Ptr + Counter) = toupper( * (Ptr + Counter) );
}
}
void main()
{
clrscr();
int Position = 0;
char Message[] = "Programming Fun";
ChangeString (Message, Position);
cout<<Message<<" @ "<<Position;
}
```

- f) Study the following C++ program and select the possible output(s) from it : 3
Find the maximum and minimum value of L.

```
#include<stdlib.h>
#include<iostream.h>
#include<string.h>
void main()
{
randomize();
char P[]="SINGAPORE";
long L;
for(int i=0;P[i]!='R';i++)
{
L=random (sizeof(L) +5;
cout<<P[L]<<"-";
}
}
```

- i) R-P-O-R-
- ii) P-O-R+S
- iii) O-R-A-G-
- iv) A-G-R-N-

Q3.

- a) Assuming that a text file named FIRST.TXT contains some text written into it, write a function named vowelwords(), that reads the file FIRST.TXT and creates a new file named SECOND.TXT, to contain only those words from the file FIRST.TXT which start with a lowercase vowel (i.e., with 'a', 'e', 'i', 'o', 'u'). 2

For example, if the file FIRST.TXT contains
Carry umbrella and overcoat when it rains
Then the file SECOND.TXT shall contain
umbrella and overcoat it

- b) Write a function in C++ to print the count of the word "Technology" and "India" 2
(ignoring the case) as an independent word in a text file education.TXT.
If the file "education.txt" content is as follows:

Technology brings innovation in education.

Misuse of technology destroys the system.

Indian education is becoming tech-savvy.

- c) Write a function in C++ to count the number of uppercase alphabets present in a text file "ARTICLE.TXT". 2
- d) Write a function in C++ to count and display the number of lines not starting with alphabet 'A' present in a text file "STORY.TXT". 3
- Example:
If the file "STORY.TXT" contains the following lines,
The rose is red.
A girl is playing there.
There is a playground.
An aeroplane is in the sky.
Numbers are not allowed in the password.
The function should display the output as 3.
- e) Write a C++ program to write number 1 to 100 in a data file NOTES.TXT 2
- Q4.
- a) Answer the questions (i) and (ii) after going through the following program: 1
- ```
class Match
{int Time;
public:
Match() //Function 1
{
Time=0;
cout<<"Match commences"<<endl;
}
void Details() //Function 2
{ cout<<"Inter Section Basketball Match"<<endl;
}
Match(int Duration) //Function 3
{
Time=Duration;
cout<<"Another Match begins now"<<endl;
}
Match(Match &M) //Function 4
{
Time=M.Duration;
cout<<"Like Previous Match "<<endl;
}}
;
```
- i) Which category of constructor - Function 4 belongs to and what is the purpose of using it?
- ii) Write statements that would call the member Functions 1 and 3
- b) Answer the questions (i) to (iv) based on the following code: 4
- ```
class customer
{
private:
int custno;
char name[20];
protected:
void register( );
public:
customer( );
void status( );
};
class salesman
{
private:
int sno;
char sname[20];
```

```
protected:
float salary;
public:
salesman( );
void enter( );
void show( );
};
class shop: private customer, public salesman
{
char vno[10];
char sdate[8];
public:
shop( );
void salesentry( );
void sales_detail ( );
};
```

- (a) write name of data members which are accessible from object belonging to class customer.
- (b) Write names of all the members which are accessible from object belonging of class salesman.
- (c) Write names of all the member function which are accessible from member function of class shop.
- (d) How many bytes will be required by an object belonging to class shop.