**MCQ SECTION**

Q1.D

Q2.B

Q3.C

Q4.D

**CODING SECTION**

*PROBLEM STATEMENT-1(5 marks)*

#include<iostream>

using namespace std;

class alien

{

protected:

char name[20];

char color[20];

int eyes;

int lives;

public:

alien()

{

}

};

class martian:protected alien

{

public:

martian(char \*n,char \*c,int e, int l)

{

strcpy(name,n);

strcpy(color,c);

eyes=e;

lives=l;

}

void toString()

{

cout<<"The alien "<<name<<" is a martain.It is "<<color<<" in color,has "<<eyes<<

" and can live "<<lives<<" lives"<<endl;

}

};

class jupiterian:protected alien

{

public:

jupiterian(char \*n,char \*c,int e, int l)

{

strcpy(name,n);

strcpy(color,c);

eyes=e;

lives=l;

}

void toString()

{

cout<<"The alien "<<name<<" is a jupiterian.It is "<<color<<" in color,has "<<eyes<<

" and can live "<<lives<<" lives";

}

};

**int main()**

**{**

**char c[20],n[20];**

**int e;**

**int l;**

**cin.getline(n,20);**

**cin>>c;**

**cin>>e;**

**cin>>l;**

**martian m(n,c,e,l);**

**cin.ignore();**

**cin.getline(n,20);**

**cin>>c;**

**cin>>e;**

**cin>>l;**

**jupiterian j(n,c,e,l);**

**m.toString();**

**j.toString();**

**return 0;**

**}**

*PROBLEM STATEMENT-2(10 marks)*

**#include<iostream>**

**#include<iomanip>**

**using namespace std;**

**class geometricalshape**

**{**

**public:**

**virtual void volume()**

**{**

**cout<<"base";**

**}**

**};**

class sphere:public geometricalshape

{

int radius;

public:

void volume()

{

cin>>radius;

cout<<"Volume of sphere is "<<fixed<<setprecision(3)<<1.33\*3.14\*radius\*radius\*radius<<endl;

}

};

class cylinder:public geometricalshape

{

int radius,height;

public:

void volume()

{

cin>>radius>>height;

cout<<"Volume of cylinder is "<<fixed<<setprecision(3)<<3.14\*radius\*radius\*height<<endl;

}

};

class cone:public geometricalshape

{

int radius,height;

public:

void volume()

{

cin>>radius>>height;

cout<<"Volume of cone is "<<fixed<<setprecision(3)<<0.33\*3.14\*radius\*radius\*height<<endl;

}

};

class cube:public geometricalshape

{

float radius;

public:

void volume()

{

cin>>radius;

cout<<"Volume of cube is "<<fixed<<setprecision(3)<<radius\*radius\*radius<<endl;

}

};

int main()

{

int choice;

geometricalshape \*g;

sphere s;

cylinder c;

cone co;

cube cu;

cin>>choice;

switch(choice)

{

case 1:

g=&s;

g->volume();

break;

case 2:

g=&c;

g->volume();

break;

case 3:

g=&co;

g->volume();

break;

case 4:

g=&cu;

g->volume();

break;

default:

cout<<"wrong choice";

}

return 0;

}