**MCQ SECTION**  
Q1. A

Q2. D

Q3. A

Q4. B

**CODING SECTION**

***PROBLEM STATEMENT-1(5-MARKS)***

**#include <iostream>**

**using namespace std;**

class Number

{

private:

int n;

public:

int getNumber()

{

cin>> n;

return n;

}

};

class Square:public Number

{

public:

int cal(int a)

{

cout<<a\*a<<endl;

}

};

class Cube:public Number

{

public:

int cal(int a)

{

cout<<a\*a\*a<<endl;

}

};

**int main()**

**{**

**int num;**

**Number n;**

**Square s;**

**Cube c;**

**num=n.getNumber();**

**s.cal(num);**

**c.cal(num);**

**return 0;**

**}**

***PROBLEM STATEMENT-2(10-MARKS)***

**#include<iostream>**

**#include<string.h>**

**#include<iomanip>**

**using namespace std;**

**class student**

**{**

**protected:**

**int rollno;**

**char stu\_name[30];**

**char course[15];**

**public:**

**student(int rno,char \*n,char \*c)**

**{**

rollno=rno;

strcpy(stu\_name,n);

strcpy(course,c);

cout<<"\nIn base class constructor";

}

~student()

{

cout<<"\nIn base class destructor";

}

char\* input\_name()

{

return stu\_name;

}

char \*input\_course()

{

return course;

}

int input\_rollno()

{

return rollno;

}

};

class marks:public student

{

protected:

int mark[3];

public:

marks(int rno,char \*n,char \*c,int m1,int m2,int m3):student(rno,n,c)

{

mark[0]=m1;

mark[1]=m2;

mark[3]=m3;

cout<<"\nIn marks class constructor";

}

~marks()

{

cout<<"\nIn marks class destructor";

}

int total()

{

return(mark[0]+mark[1]+mark[3]);

}

};

class result:public marks

{protected:

float percentage;

public:

result(int rno,char \*n,char \*c,int m1,int m2,int m3):marks(rno,n,c,m1,m2,m3)

{

cout<<"\nIn derived class constructor";

}

~result()

{

cout<<"\nIn derived class desructor";

}

void display()

{

cout<<"\nRollno="<<input\_rollno();

cout<<"\nName="<<input\_name();

cout<<"\nCourse="<<input\_course();

cout<<"\nTotal marks="<<total();

percentage=(total())/3.0;

cout<<"\nPercentage="<<fixed<<setprecision(2)<<percentage;

if(percentage>=60)

cout<<"\nDivision=FIRST";

else if(percentage>=50)

cout<<"\nDivision=SECOND";

else

cout<<"\nDivision=THIRD";

}

};

**int main()**

**{**

**int rollno,marks1,marks2,marks3;**

**char name[30],course[30];**

**cin>>rollno;**

**cin.ignore();**

**cin.getline(name,30);**

**cin.getline(course,30);**

**cin>>marks1>>marks2>>marks3;**

**result r(rollno,name,course,marks1,marks2,marks3);**

**r.display();**

**return 0;**

**}**