**MCQ SECTION**

Q1. C

Q2. C

Q3.D

Q4. C

**CODING SECTION**

*PROBLEM STATEMENT-1(5 marks)*

**#include<iostream>**

**#include<string.h>**

**using namespace std;**

**class student**

**{**

**public:**

**int rollno;**

**char name[20];**

**student(char name1[20],int x)**

**{**

**strcpy(name,name1);**

**rollno=x;**

**}**

**};**

class marks:public student

{

public:

int mar[3];

int total=0;

marks(int mark[3],char name[20],int x):student(name,x)

{

for(int i=0;i<3;i++)

{

mar[i]=mark[i];

total+=mar[i];

}

}

};

class Result:public marks

{

public:

Result(int rno,char name[20],int mar[3]):marks(mar,name,rno)

{

cout<<rno<<endl<<name<<endl<<total;

}

};

**int main() {**

**int rno,i;**

**char name[20];**

**int marks[3];**

**cin>>rno;**

**cin>>name;**

**for(i=0;i<3;i++)**

**{**

**cin>>marks[i];**

**}**

**Result r(rno,name,marks);**

**return 0;**

**}**

*PROBLEM STATEMENT-2(10 marks)*

**#include <iostream>**

**using namespace std;**

class cement

{

protected:

int no\_of\_bags,cost;

public:

cement(int no,int c)

{

no\_of\_bags=no;

cost=c;

}

int get\_cement\_cost()

{

return (no\_of\_bags\*cost);

}

};

class steel

{

protected:

int tons\_of\_steel,cost;

public:

steel(int a,int b)

{

tons\_of\_steel=a;

cost=b;

}

int get\_steel\_cost()

{

return (tons\_of\_steel\*cost);

}

};

class wood

{

protected:

int cubicfeet\_of\_wood,cost;

public:

wood(int c,int d)

{

cubicfeet\_of\_wood=c;

cost=d;

}

int get\_wood\_cost()

{

return (cubicfeet\_of\_wood\*cost);

}

};

class house:public cement,public steel,public wood

{ protected:

int total\_cost,cement\_cost,steel\_cost,wood\_cost;

public:

house(int n1,int c1,int n2,int c2,int n3,int c3):cement(n1,c1),steel(n2,c2),wood(n3,c3)

{

cout<<"\nDerived class constructor";

cement\_cost=get\_cement\_cost();

steel\_cost=get\_steel\_cost();

wood\_cost=get\_wood\_cost();

cout<<"\ncost of cement="<<cement\_cost<< " rupees";

cout<<"\ncost of steel="<<steel\_cost<<" rupees";

cout<<"\ncost of wood="<<wood\_cost<<" rupees";

total\_cost=get\_cement\_cost()+get\_steel\_cost()+get\_wood\_cost();

cout<<"\ntotal cost to construct a house="<<total\_cost<<" rupees";

}

};

**int main()**

**{**

**int no\_of\_bags,cost\_cement, tons\_of\_steel,cost\_steel,cubicfeet\_of\_wood,wood\_cost;**

**cin>>no\_of\_bags>>cost\_cement>>tons\_of\_steel>>cost\_steel>>cubicfeet\_of\_wood>>wood\_cost;**

**house h(no\_of\_bags,cost\_cement, tons\_of\_steel,cost\_steel,cubicfeet\_of\_wood,wood\_cost);**

**return 0;**

**}**