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EXAMINATION SCRIPT

(Filled up by class teacher)

| Question No. | Mark Obtained |
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(This part is filled up by students)

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|--------------------------|-------------------------|
| Name: | Md. Zobayer Hasan Nayem |
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| Intake - Section: | 44-7 |
| Program: | CSE |
| Course code: | 121 |
| Course title: | CSE 121 |
| Trimester: | Summer 2020 |
| Exam type: | Mid Term |
| Date: | 25 September, 2020 |
| Question option: | |

Ans to the NO: 1(a)

→ Explain how oop gives the abstraction feature

Abstraction is one of the most essential and important feature of object oriented programming in c++. It represents essential features without including the background details or explanations. Data abstraction refers to providing only essential information about the data to the outside world, hiding the background details or implementation. The main purpose of abstraction is hiding the unnecessary details from the users. It helps in reducing programming complexity and efforts. It is one of the most important concepts of oop.

⇒ why we need to encapsulation?

The whole idea behind encapsulation is to hide the implementation details from users. If a data member is private it means it can only be accessed within the same class.

Prevent the access to the data directly or data is not accessible to the outside world.

This insulation of the data from direct access by the program is known as 'data hiding' or information hiding.

Ans To The Que No : 01(B)

Ans to the que No:- 1(b)

```
#include <iostream>
#include <conio.h>

using namespace std;

class square
{
private:
    int length;

public:
    void set_length (int a)
    {
        length = a;
    }

    inline int getarea (void)
    {
        return length * length;
    }

    cout << length << endl;
};
```

int main()

{

Square square1;

int area = 0.0;

square1.set_length(23);

area = square1.getarea();

cout << "area of square1 : " << area << endl;

getch();

}

Ans To The Que No: 02 (A)

Ans to the que NO: 2 (a)

```
#include <iostream>

using namespace std;

class Cse44
{
    Private:
        char name[100];
        int id, sec;
        int intake = 44;

    Public:
        Cse44();
        ~Cse44();
        void read();
        void disp();
};

Cse44 :: Cse44()
{
}
```



```
void Cse44 :: read ()
```

```
{
```

```
cout << "\n Enter The student Name :";
```

```
cin >> name;
```

```
cout << "Enter ID :";
```

```
cin >> id;
```

```
cout << "Enter Section :";
```

```
cin >> sec;
```

```
}
```

```
void Cse44 :: disp ()
```

```
{
```

```
cout << "\n\n Student Details " << endl;
```

```
cout << "Student Name : " << name << endl;
```

```
cout << "ID : " << id << endl;
```

```
cout << "Section is : " << sec << endl;
```

```
cout << "Intake is : " << intake;
```

```
}
```

Cse44 :: ~ Cse44()

}

}

int main()

{

Cse44 s[5];

int i, n=0;

for (i=0; i<5; i++)

{

s[i].read();

}

for (i=0; i<5; i++)

{

s[i].Disp();

}

return 0;

}

Ans To The Que No : 2-(B)

Ans to the que NO: 2(B)

```
#include <iostream>
```

```
using namespace std;
```

```
class Coordinate
```

```
{
```

```
public:
```

```
    int x, y, z;
```

```
    void set (int x1, int y1, int z1)
```

```
{
```

```
        x = x1;
```

```
        y = y1;
```

```
        z = z1;
```

```
}
```

```
    void show()
```

```
{
```

```
        cout << "The value of a is: " << x << endl;
```

```
        cout << "The value of b is: " << endl;
```

```
        cout << "The value of c is: " << endl;
```

};

int main ()

{

Coordinate object1;

object1.set (5, 10, 20);

Coordinate object2 = object1;

object2.show ();

object2.show ();

return 0;

}

output:

The value of a is : 5

The value of b is : 10

The value of c is : 20

The value of a is : 5

The value of b is : 10

The value of c is : 20

Ans To The Que No: 03 — (A)

Ans to the que NO: 3@

```
#include <iostream>
```

```
using namespace std;
```

```
class Box
```

```
private:
```

```
int length, width, height, volume;
```

```
public:
```

```
Box(int x, int y, int z)
```

```
{
```

```
length = x;
```

```
height = y;
```

```
width = z;
```

```
}
```

```
int calVolume()
```

```
{
```

```
volume = length * height * width
```

```
return volume;
```

```
};
```

```
void compareBox (Box A1, Box A2)
```

```
{
```

```
    int x, y;
```

```
    x = A1.calVolume();
```

```
    y = A2.calVolume();
```

```
    cout << "Bigger Volume : " << max(x, y);
```

```
}
```

```
int main()
```

```
{
```

```
    Box A1(4, 5, 6);
```

```
    Box A2(7, 8, 9);
```

```
    A1.calVolume();
```

```
    cout << "Box 1 volume : " << A1.calVolume() << endl;
```

```
    A2.calVolume();
```

```
    cout << "Box 2 volume : " << A2.calVolume() << endl;
```

```
    compareBox(A1, A2);
```

```
    return 0;
```

```
}
```


Ans to The Que No : 03 (B)

Ans to the que NO:- 3(b)

```
#include <iostream>
#include <conio.h>
using namespace std;

class set
{
    int m, n, p;
    char x, y, z;
public:
    void input(void);
    void largest(void);
};

void set :: input(void)
{
    cout << "Enter the total marks of three students : " << endl;
    cin >> m >> n >> p;

    cout << "Enter the grades of three students [Ex: A, B, C, D, F] " << endl;
    cin >> x >> y >> z;
}
```

```
void set :: largest ()
```

```
{
```

```
if (m >= n && m >= p)
```

```
cout << "Largest number : " << m << " \n Largest Grade : "
```

```
<< x;
```

```
if (n >= m && n >= p)
```

```
cout << "Largest number : " << n << " \n Largest Grade : "
```

```
<< y;
```

```
if (p >= m && p >= n)
```

```
cout << "Largest number : " << p << " \n Largest Grade : "
```

```
<< z;
```

```
}
```

```
int main ()
```

```
{
```

```
set A;
```

```
A.input ();
```

```
A.largest ();
```

```
return 0;
```

```
}
```