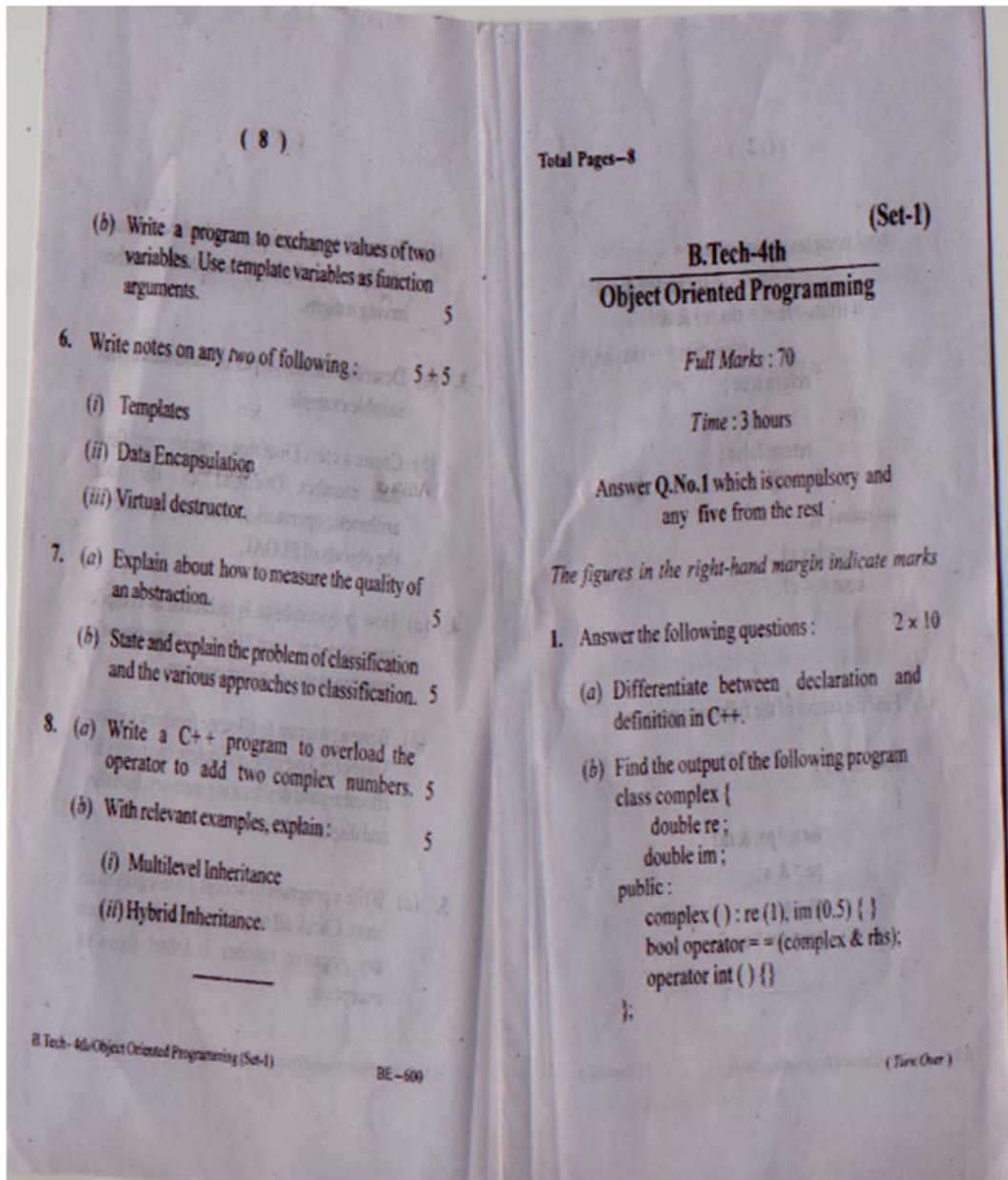


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& INFORMATION TECHNOLOGY
SESSION 2014-2015 (EVEN SEMESTER)



(2)

```
bool complex :: operator ==  
    (complex & rhs){  
    if ((this->re == rhs.re) &&  
        (this->im == rhs.im))  
        return true ;  
    else  
        return false ;  
    }  
int main () {  
    complex c1 ;  
    cout << c1 ;  
}
```

(c) Find the output of the following program

```
void main ()  
{  
    int a, *pa, &ra ;  
    pa = &a ;  
    ra = a ;  
    cout << "a = " ;  
}
```

(3)

(d) Find the output of the following program

```
class base  
{  
    public :  
    virtual void base Fun ()  
        {cout << "from base" } ;  
}  
class deri : public base  
{  
    public :  
    void base Fun () { cout <<  
        "from derived" } ;  
}  
void SomeFunc (base * base Obj)  
{  
    baseObj->baseFun () ;  
}  
int main ()  
{  
    base baseObject ;  
    SomeFunc (& baseObject) ;  
    deri deriObject ;  
    SomeFunc (& deriObject) ;  
}
```

(4)

(e) Find the output of the following program

```
# include < iostream >
using namespace std;
int x = 10;
void fun ()
{
    int x = 2;
    {
        int x = 1;
        cout << :: x << endl;
    }
}
int main ()
{
    fun ();
    return 0;
}
```

(f) Find the output of the following program.

```
# include < iostream >
using namespace std;
class Point {
```

(5)

```
private:
    int x;
    int y;
public:
    Point (int i, int j); // Constructor
};
Point :: Point (int i = 0, int j = 0) {
    x = i;
    y = j;
    cout << "Constructor called";
}
int main ()
{
    Point t1, *t2;
    return 0;
}
```

(g) What is the output when the following code fragment is executed?

```
int found = 0, count = 5;
if (! found || --count == 0)
    cout << "danger" << endl;
cout << "count = " << count << endl;
```

(h) What do you mean by dynamic initialization of objects?

(6)

- (i) Suppose that the following code fragment is executed.

```
const int LENGTH = 21;  
char message [LENGTH];  
cout << "Enter a sentence on the line  
below." << endl;
```

```
cin >> message;  
cout << message << endl;
```

Suppose that in response to the prompt, the interactive user types the following line and presses Enter :

Please go away.
What will the output of the code fragment look like ?

- (j) What is the output when the following code fragment is executed ?

```
int found = 0, count = 5;  
if (! found || --count == 0)  
cout << "danger" << endl;  
cout << "count = " << count << endl;
```

2. (a) Write a C++ program to calculate the absolute value of any given number. Define user defined function Abs(). Make it inline. 5

(7)

- (b) Write a C++ program to calculate the sum of alternate digits of an entered number having n digits. 5

3. (a) Describe various types of inheritance with suitable example. 5

- (b) Create a class Float that contains one float data member. Overload all the four arithmetic operators so that they operate on the objects of FLOAT. 5

4. (a) How polymorphism is achieved at compile time and run time? Give an example of a program that uses polymorphism. 5

- (b) Write a program to allocate memory to store 3 integers. Use new and delete operators for allocating and deallocating memory. Initialize and display the values. 5

5. (a) Write a program to accept 10 integers in an array. Check all numbers in the array. When any negative number is found, throw an exception. 5

