DHARMSINH DESAI UNIVERSITY, NADIAD
FACULTY OF TECHNOLOGY
B.TECH. SEMESTER III [IT]
SUBJECT: (IT-303) OBJECT ORIENTED PROGRAMMING

Examination	**: First Sessional**	**Seat No.**	**: _____**
Date	**: 31/07/2014**	**Day**	**: Thursday**
Time	**: 09:30 to 10:45**	**Max. Marks**	**: 36**

INSTRUCTIONS:
1. Figures to the right indicate maximum marks for that question.
2. The symbols used carry their usual meanings.
3. Assume suitable data, if required & mention them clearly.
4. Draw neat sketches wherever necessary.

Q.1 Do as directed: **[12]**

(A) Find out the errors in the following, correct them and show the output: **[12]**

1)
```
#include<iostream.h>
void main()
{ int x=20,y=35;
 x=y++ + x++;
 y=++y + ++x;
 cout<<x<<y; }
```

2)
```
#include<iostream.h>
void main()
{ int i=6;
 cout<<i<<++i<<i++<<++i<<i++;
 }
```

3)
```
#include<iostream.h>
void sum(int a,int b,int &c)
{ a=b+c; b=a+c; c=a+b; }
void main()
{ int x=2,y=3;
 sum(x,y,y); cout<<x<<y; }
```

4)
```
#include<iostream.h>
int fun(int m=10,int n)
{ int c; c=m+n; return c; }
void main()
{ cout<<fun(5); }
```

5)
```
#include<iostream.h>
class sample
{ int a;
 public: sample(int a1) {a=a1;}
        void show() {cout<<a;} };
void main()
{ sample s1(10); s1.show(); }
```

6)
```
#include<iostream.h>
class test
{ public: static int n;
        test(){ n++; } };
void main()
{ test a[5]; test b;
 cout<<test::n; }
```

Q.2 Answer the following: **[12]**

(A) What is the advantage of using default arguments in function? **[2]**

(B) What is object oriented programming? How is it different from the procedure oriented programming? **[4]**

(C) Define an array of strings for days of week and sort them. **[6]**

OR

(C) Create a class that includes a data member that holds a "serial number" for each object created from the class. That is, the first object created will be numbered 1, the second 2, and so on. Add a member function that permits an object to report its own serial number. Then write a main() program that creates three objects and queries each one about its serial number. They should respond I am object number 2, and so on. **[6]**

Q.3 Answer the following: **[12]**

(A) What is difference between private and public access specifier? **[2]**

(B) How can you make a function inline? How does an inline function differ from a normal function? **[4]**

(C) Declare a class called "date" having day, month and year as member variables. Define a member functions called get() to get the values for members, increment() to increment date (suppose current date is 31/01/2014 then after incrementing it should be 1/02/2014) and show() to display the date. Write a main() function to process the objects of the same class. **[6]**

OR

Q.3 Answer the following: **[12]**

(A) What is "Preprocessor Directive"? **[2]**

(B) Can a class have more than one constructor in a class? Explain with example. **[4]**

(C) Imagine a tollbooth at a bridge. Cars passing by the booth are expected to pay a 50 cent toll. Mostly they do, but sometimes a car goes by without paying. The tollbooth keeps track of the number of cars that have gone by, and of the total amount of money collected. Model this tollbooth with a class called TollBooth. The two data items are a type int to hold the total number of cars, and a type double to hold the total amount of money collected. A constructor initializes both of these to 0. A member function called payingCar() increments the car total and adds 0.50 to the cash total. Another function, called nopayCar(), increments the car total but adds nothing to the cash total. Finally, a member function called display() displays the two totals. Write a main() function to process the objects of the same class. **[6]**
