DHARMSINH DESAI UNIVERSITY, NADIAD
FACULTY OF TECHNOLOGY
B.TECH. SEMESTER III [IT]
SUBJECT: (IT-302) OBJECT ORIENTED PROGRAMMING

Examination	**: First Sessional**	**Seat No.**	**: _____**
Date	**: 06/08/2012**	**Day**	**: Monday**
Time	**: 9:00 to 10:15**	**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 Answer the Following : **[12]**

(A) (1) In what unsual place can you use a function call when a function returns a value by reference? **[1]**

(2) True or False**:** Data items in a class must be private. **[1]**

(B) Find out the errors, if any, in the following programs and show the output: **[8]**

(1)
```
#include<iostream.h>
void main()
{
  int i=3,j;
  j=++i*++i*++i;
  cout<<j;
}
```

(2)
```
#include<iostream.h>
void show(int);
void main()
 {  show();  }

void show(int n)
{  int m=10*n;
   cout<<m;  }
```

(3)
```
#include<iostream.h>
void square(int);
void main()
{ int n; cin>>n;
  cout<<square(n); }

inline void square(int m)
 { return m*m;  }
```

(4)
```
#include<iostream.h>
class sample
 {  static int a;
    public: sample() { a++ ; }
void show() { cout<<a; } };
void main()
 {  sample s1,s2;
   s1=s2; s1.show(); s2.show();  }
```

(C) What is the principle reason for passing arguments by reference? **[2]**

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

(A) How enumerated data types are different from integer data types? **[2]**

(B) Explain the characteristics of object-oriented programming. **[4]**

(C) Write a program for counting a no. of objects created and no. of objects destroyed for a class. **[6]**

OR

(C) Define a member function for class "string" to combine two string objects. Write a main() function to support this class.(don't use inbuilt function for concatenation). **[6]**

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

(A) "The << insertion operator stops reading a string when it encounters a space": State true or false with justification. **[2]**

(B) Explain overloaded functions with example. **[4]**

(C) Define structure "Student" which contains roll_no, name, branch and marks. Get the data for the students using function -Student read() and display the details of student scoring highest marks using function-void show(Student). To find out the student who has obtained the highest marks use the function - int highest_marks(student[],int). Enter the information for 5 students. **[6]**

OR

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

(A) If three objects of a class are defined, how many copies of that class's data items are stored in memory? How many copies of its member functions? **[2]**

(B) Describe the storage classes for automatic, external and static variables with example. **[4]**

(C) Create a class "Distance" which contains data members feet and inches. Define member functions void getdata()-to get the data from the user, void shodata()-to display the data and Distance add(Distance)-to add two distance objects. Write a main() function to exercise this class. **[6]**