

# B.Sc (I.T) (SEM VI)

CON/4150-05.

C#

17<sup>th</sup>

Oct, 2005 RB-3986

( 3 Hours )

[ Total Marks : 100

- N.B. :
- (1) Question No.1 is compulsory.
  - (2) Solve any four from Q. Nos. 2 to 7.
  - (3) All questions carry equal marks.

- Q1) Write short notes on the following (any five) 20
- a) Eight differences between c++ & c#
  - b) .NET framework
  - c) Data types in c#
  - d) Boxing & unboxing
  - e) variable size array
  - f) Difference between structures & classes
  - g) Abstract methods & classes
- Q2) a) Write a program to print the following output 8
- ```

1
2 2
3 3 3
4 4 4 4
5 5 5 5 5

```
- b) What is .NET technology? Describe briefly its origins. 6
  - c) What is a property. How do we declare and use it(show a program). 6
- Q3) a) Explain regular expression. Write a program that shows the implementation of this. 8
- b) Demonstrate the typical use of the following jump statements 6
- break
  - continue
  - goto
- in a single program
- c) Explain Enumeration with example 6
- Q4) a) Explain four types of method parameters 8
- b) Develop a program that prompts the user to input the name, door number, street, city and pincode and stores them in the address record designed as a structure(with name, door number, street, city and pincode as its members) and display them in an appropriate manner 6
- c) Write the output of the following codes(2 marks each): 6
- i) 

```
int m=100, n=300;
while(++m<-n)
Console.WriteLine(m);
```
  - ii) 

```
int m=100;
while(true)
{
    if(m<10) break;
    m=m-10;
}
Console.WriteLine(m);
```
  - iii) 

```
int i,j;
for(i=10,j=0;i+j>5;i=i-2, j++)
Console.WriteLine("hello");
```

- Q5) a) Write a program to print the following Pascal's triangle 8
- ```

1
1 1
1 2 1
1 3 3 1
1 4 6 4 1
1 5 10 10 5 1
. . . . .
    
```
- If we denote rows by  $i$  and the columns by  $j$ , then any element (except the boundary elements) in the triangle is given by
- $$P_{ij} = P_{i-1,j-1} + P_{i-1,j}$$
- b) Explain the function of each: 6
- Add()
  - Reverse()
  - Contains()
  - Capacity
  - RemoveAt()
  - CopyTo()
- c) Write the functionality of try, catch, throw and finally in exception handling 6
- Q6) a) Explain Array List. Write a program that shows the use of array list 8
- b) Explain inclusion polymorphism with example 6
- c) Write a program that accept two double type numbers from the user and displays the addition, subtraction, multiplication, division and modulus of those two numbers. 6
- Q7) a) What is operator overloading. Write a program to add and subtract two complex numbers using operator overloading 8
- b) State what the following statements would accomplish
- i) `int n = s1.Length;` 1
  - ii) `int m = s1.IndexOf("ar");` 1
  - iii) `string s2 = s1.Insert(s1.IndexOf("OK"), "not");` 2
  - iv) `int n = string.Compare(s1,s2,false);` 1
  - v) `Console.WriteLine(s1[5]);` 1
- c) 1) What is a readonly member? When and why it is used 3  
 2) What is an indexer. What it is used for? 3