

DIT UNIVERSITY DEHRADUN
B.TECH (CSE, IT) MIDTERM EVEN SEM 2017-18 (SEM VI)

Roll No.

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Subject Name: Dot Net Technologies

Total Marks: 50

Time: 2 Hours

Note: All questions are compulsory. No student is allowed to leave the examination hall before the completion of the exam.
No additional answer booklet shall be issued.

- Q.1)** (a) Draw the architecture of Dot Net Framework. Also explain the working of CLR.
 (b) How does an indexer differ from property in terms of implementation? Explain with examples.
 (c) When do we prefer to use the ArrayList class over the Array class? Explain with examples.
 (d) Explain the type of constructors used in C#. Write a program to implement copy constructor.

[4 x 2.5 = 10]

- Q.2)** (a) Write a program to show Boxing and Unboxing in C#.Net. Should Boxing – Unboxing be avoided? Justify your answer.
 (b) How does the foreach statement differ from for statement? Give a typical example where a foreach statement has to be used.
 (c) List the restrictions in declaring parameter arrays.
 (d) Comment on the following statement:
"Parameter arrays are replacements of overloading of methods."

[4 x 2.5 = 10]

- Q.3)** (a) Define a Time class containing the following members:
 - Two integer data members: minutes and hours
 - Two overloaded constructors
 - One method to display the class data members
 One of the constructors takes two integer parameters to assign values to two data members and the other constructor takes one integer parameter representing total number of minutes and converts it into hours and minutes.
 Write a complete program to verify the operation of the constructors and the method.

- (b) What are delegates in C#? Write a program to implement multicast delegate.

[2 x 5 = 10]

- Q.4)** (a) Define a base class called Person with the following members:
 - A string type member to store the name of the person
 - An integer member to store the age of the person in years
 - A method to display the name and age

Derive two classes named Employee and Manager from Person class. Then, write a driver program to create Employee and Manager objects with suitable values. Display the contents of the object by calling the Display method on the derived objects.

- (b) Write down the difference between Mutable and immutable Strings. Also write a program to implement Mutable Strings.

[2 x 5 = 10]

Q.5)

- (a) Write a program that will read a name from the keyboard and display it on the screen. The program should throw an exception when the length of the name is more than 15 characters. Design your own exception mechanism.
- (b) Design a structure data type for an inventory record consisting of item code, item name, item cost and the total items available. Write a C# program that uses an array of five inventory items, accepts interactively the data of all the five inventory items into array and display them in tabular form as shown below:

Code	Name	Cost	Total items

-----END OF PAPER-----

[2 x 5 = 10]