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**Question Paper Code : 91329**

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2014.

Seventh Semester

Computer Science and Technology

CS 2041/CS 706/10144 CSE 42 – C# and .NET FRAMEWORK

(Common to Information Technology)

(Regulation 2008/2010)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What is the significance of MSIL?
2. Can an array hold objects of varying types?
3. What is the relationship between specialization and generalization?
4. How do you call a base class constructor from a derived class?
5. Differentiate between 'is' and 'as' operators.
6. What is synchronization? Give Example.
7. Which makes a relational database different from any other kind of database?
8. Using an employee database, write an XML program to retrieve an employee's detail whose salary is below Rs. 3,000. (Assume other related attributes)
9. What is WSDL?
10. State any four performance measures for web services.

PART B — (5 × 16 = 80 marks)

11. (a) Create an array of 10 integers. Populate the array by having the user enter integers at the console (use Console.ReadLine). Output the integers sorted from greatest to least. (16)

Or

(b) (i) Write a program that assigns the value 25 to variable  $x$  and 5 to variable  $y$ . Output the sum, difference, product, quotient and modulus of  $x$  and  $y$ . (10)

(ii) What will be the output of the following method? Why? (6)

```
static void Main()  
{  
    int varA = 5;  
    int varB = ++varA;  
    int varC = varB++;  
    Console.WriteLine ("A: {0}, B: {1}, C:{2}", varA, varB, varC);  
}
```

12. (a) Write a countdown alarm program that uses delegates to notify anyone who is interested that the designated amount of time has passed. You'll need a class to simulate the countdown clock that accepts a message and a number of seconds to wait (supplied by the user). After waiting the appropriate amount of time, the countdown clock should call the delegate and pass the message to any registered observers. (When you're calculating the time to wait, remember that `Thread.Sleep()` takes an argument in milliseconds and requires a `using System.Threading` statement). Create an observer class as well that echoes the received message to the console. (16)

Or

(b) Create an abstract 'Animal' class that has private members weight and name and abstract methods `Speak()`, `Move()` and `ToString()`. Derive from Animal a 'Cat' class and a 'Dog' class that override the methods appropriately. Create an Animal array, populate it with Dogs and Cats and then call each member's overridden virtual methods. (16)

13. (a) Develop a C# program to implement a linked list. (16)

Or

(b) (i) Give a brief account on the various file operations in C#. (8)

(ii) Explain with an example, multitasking and multi threading in C#. (8)

14. (a) (i) Explain the classification of the basic classes in ADO.NET. (8)  
(ii) Write a C# code that uses DataReader class to issue query to read data from a dataset. Assume your own example. (8)

Or

- (b) Illustrate, using an example of your choice, the usage of the data grid view class. (16)

15. (a) Write a web service using SOAP to convert Celsius To Fahrenheit.

Or

- (b) Develop an application in ASP.NET which displays stock market details. Assume the following information :

STOCK CODE, STOCK NAME, CURRENT PRICE,  
YEAR LOW PRICE, YEAR HIGH PRICE.

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