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53 (CS 814) CANF

2017

C# AND .NET FRAMEWORK

Paper : CS 814

Full Marks : 100

Time : Three hours

The figures in the margin indicate full marks for the questions.

Answer **any five** questions.

1. (a) Differentiate between the following : 2×5=10
- (i) Value type and reference type
 - (ii) OLE and COM Technology
 - (iii) String class and String Builder class
 - (iv) Array and Array List class
 - (v) Break Statement and Continue Statement.

Contd.

(b) Define the following terms briefly : 2×5=10

- (i) Net technology
- (ii) Copy constructor
- (iii) Namespace
- (iv) Framework base class
- (v) Mutable strings.

2. (a) What are the benefits of .NET approach? 5

(b) Mention *five* functions of Common Language Runtime (CLR). 5

(c) What is an alias? How can it be used? 2+3=5

(d) Why C# is known as type-safe? 5

3. (a) Briefly explain the Pillars OOP. 6

(b) Write a program showing the implementation of a constructor. 5

(c) Design a class to represent a bank account. Include the following members: 9

Data members :

- Name of depositor
- Account number

- Account type
- Balance amount

Methods :

- To deposit an amount
- To withdraw an amount
- To display the name and balance

Write a program to perform the operations mentioned in the methods.

4. (a) Define output parameter. Give a suitable program using output parameter. $2+4=6$
- (b) Write a method to check whether an element is present in an array or not. 8
- (c) What is parameter array ? Write a program showing the use of parameter array. $2+4=6$
5. (a) Define compile time and run-time polymorphism. Write a program for each showing the implementation. $3 \times 2 + 5 \times 2 = 16$
- (b) Write a program showing the use of a constructor in structure. 4
6. (a) What is method overriding ? Write a program showing the implementation of method overriding. $3+7=10$

(b) Differentiate between class and structure. 4

(c) Write a program that reads a line of text containing three words and replace all the blank spaces with an underscore(_). 6

7. Write short notes on : **(any four)**

(a) Multiple Inheritance

5×4=20

(b) Static constructor

(c) Method hiding

(d) Boxing and unboxing

(e) The .Net Framework

(f) Switch Statement.