Reg. No. | | | | | | | | | |

**Question Paper Code : 12427**

B.E / B.TECH DEGREE EXAMINATION, NOV / DEC 2016

Seventh Semester

B.Tech – Information Technology

**13IT907 – C# AND .NET PROGRAMMING**

(Regulations: Mepco – R2013)

Duration: 3 Hours Max. : 100 Marks

Answer ALL Questions

**PART A – (10 × 2 = 20 Marks)**

1. State any two objectives of the .NET Framework design.
2. Differentiate boxing and unboxing.
3. What do you mean by sealed class in C#?
4. Define delegate.
5. Can a run method be synchronized? Justify your answer.
6. Differentiate StringReader and StringBuilder class in C#.
7. List out the benefits of using ADO.NET in .NET framework.
8. What are the methods supported by dataset object to generate XML?
9. Define Data binding.
10. What is the role of IIS?

**PART B – (5 × 16 = 80 Marks)**

11. a) i. Explain the components and features of .NET Framework. (8 Marks)

11. a) ii. Write a C# program that runs sorting algorithm on N Random integers and produces output in reverse numerical order. (8 Marks)

**OR**

11. b) i. Explain the features and elements of C# programming. (8 Marks)

11. b) ii. Write a C# program to set alternate bits of binary representation of an int to 1. (8 Marks)

12. a) i. Write a C# program to find the relations of a person. Define a class Person that contains Parent's name, Name of the person, sex, age and array containing a list of hobbies. Write methods for FindMother, FindFather, FindUncle, FindCousin and FindAunty that returns the object of the person class. (8 Marks)

12. a) ii. Write a C# program to implement complex class to represent complex number (x + iy). Perform the increment and decrement operations by overloading ++ and - - operators. (8 Marks)

**OR**

12. b) i. Write a C# program that implements run-time polymorphism for product bill. The product details include productNo, productType and productName. The sales price should be calculated differently depending on the productType. Overriding method of an object instance of the sub-class should be invoked. (8 Marks)

12. b) ii. Write a C# program to create a clock class that uses delegates to notify potential subscriber whenever the time changes its value by one second. (8 Marks)

13. a) i. Write a C# program which consists of two threads. The first thread prints the numbers 1 to 100. The second thread prints the letters a to z followed by A to Z. Start both threads. Modify so that the second thread wait for the first thread to terminate before it begins to display outputs. (8 Marks)

13. a) ii. Write a C# program to perform push and pop operations on stack class. (8 Marks)

**OR**

13. b) i. Discuss briefly about synchronous and non-synchronous approach to handle multithreading with an example. (8 Marks)

13. b) ii. Write a C# program that stores the customer details in sorted order based on their customer_ID in the file. Read a customer_ID and display corresponding customer details. (8 Marks)

14. a) i. Explain the ADO.NET architecture in detail. (8 Marks)

14. a) ii. Write a C# program that displays the student details, mark and grade in the semester- wise and year-wise of XML content. (8 Marks)

**OR**

14. b) i. Explain the message structure of SOAP. Write a SOAP Request and SOAP Response message code for client to get weather report from a web service. (8 Marks)

14. b) ii. Write a program to perform authentication of the user, validates the user, password and then allow the authenticated user to access the other web pages from database using ADO.NET data providers. (8 Marks)

15. a) i. Write an ASP.NET application that allow a user to enter the feedback form for an employee. Write the form data to database and responds to the user with thank you message. (8 Marks)

15. a) ii. Explain the web service architecture. What are the steps involved in the creation and consumption of web services. Explain with an example. (8 Marks)

**OR**

15. b) i. Write an ASP.NET application that validates the credit card details and password for on-line shopping. Use appropriate validation controls to perform validations. (8 Marks)

15. b) ii. Write an ASP.NET application that uses state management to display number of times the user visited the page with greeting "Welcome" for the first time and "Welcome again" for more than one time of the web page visit. (8 Marks)

MEPCO SCHLENK ENGINEERING COLLEGE
WORK IS WORSHIP