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| **Model Question Paper for Semester End Examination**  **Semester: VII Time: 03 Hours**  **Course: C# Programming & .Net Course Code: ISE402**  **Marks: 100**  **Note: Answer any two questions from UNIT I & II, & answer any 1 question from UNIT III**  **UNIT-1** | | | |
| 1 | a. | All the .NET aware compilers emit the identical IL instructions. Justify your answer with the structure of the IL code. | (10)  (Ch1,CLO2,L1) |
|  | b. | Illustrate with C# code how to check whether the instances are pointing to the same object in the memory using the methods of System.Object class. | (05)  (Ch3,CLO3,L3) |
|  | c. | Using methods in System. String class design a static method which replaces all occurrences of the word “computer” with “COMPUTER”. | (05)  (Ch2,CLO3,L2) |
| 2 | a. | Describe the components of .NET framework & explain the features of each component. | (10)  (Ch1,CLO1,L2) |
|  | b. | Demonstrate with a C# program to add the contents of two different array and store the result in third array by making use of C# parameter modifiers .Make use of appropriate functions. | (10)  (Ch2,CLO2,L3) |
| 3 | a. | Define a base class called Animal with members name, age and a method to display the name and age of the animal. Derive two classes named cat and Dog from Animal Class. Then, write a driver program to create Cat and Dog objects with suitable values. Display the contents of objects by calling the Display method on the derived objects. | (10)  (Ch3,CLO3,L3) |
|  | b. | How bug reports are generated using CSC.EXE? Explain in steps | (5)  (Ch3,CLO3,L2) |
|  | c | Write a C# program to create an Enumeration called KLE\_INSTITUTE which has Engineering, Dental, Medical colleges as its elements. Using IsDefined () function check whether the medical college is in the KLE\_INSTITUTE enumeration list. If found display the message as **“Medical College Exists”** else display the message as “**Medical college doesn’t exist”.** Also display the storage type of enumeration using the appropriate method.  **UNIT -II** | (5)  (Ch2,CLO2,L3) |
| 4. | 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 10 characters. Design your own exception mechanism. | (10)  (Ch4,CLO6,L4) |
|  | b. | Draw a C# class to use delegates to sort integers in ascending and descending order. Use comparator delegate | (10)  (Ch6,CLO5,L3) |
| 5. | a. | Can an interface be derived from multiple base interfaces? Justify your answer with appropriate program code. | (10)  (Ch5,CLO4,L3) |
|  | b. | Write a C# program to create a Car class with members as name, currentSpeed & maxSpeed. Set the initial speed and max speed for the car. If the car crosses the maxSpeed then raise an exception and display appropriate message. Also display the member type and method that has thrown exception. List all the methods used to write the code and handle the exceptions. | (10)  (Ch4,CLO3,L3) |
| 6 | a. | How do you build cloneable and comparable objects in C#? Give examples | (10)  (Ch5,CLO5,L2) |
|  | b. | Write a C# program to illustrate how to handle underflow and overflow conditions when an unsigned 8 bit number is added. | (10)  (Ch6,CLO2,L3) |
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|  |  | **UNIT-III** |  |
| 7 | a. | Explain the single file and multifile assemblies | (10)  (Ch7,CLO1,L2) |
|  | b. | Describe C# client application versus VB.NET client application. | (10)  (Ch7,CLO7,L2) |
| 8 | a. | Write the steps involved in building a shared assembly under .NET environment. | (10)  (Ch8,CLO7,L2) |
|  | b. | Write a short note on the following.  i Building Shared Assembly.  Ii Building Multifile Assembly | (10)  (Ch8,CLO1,L1) |

Model question for ME-I

**Minor Exam: I Semester: VII**

**Course: C# PROGRAMMING AND .NET Course Code: ISE402**

**Note: Answer any two full questions Marks: 40 M**

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| 1 | a. | What are the basic building blocks of .NET framework? Highlight CLS, CTS, CLR & base class libraries. | (10)  (Ch1,CLO1,L1,L2) |
| b. | Create a C# program to create a class called CAR which contains the RADIO as its inner class & name of the car as its member. Radio class should have a member called TurnOnRadio() which turns ON/OFF the radio based on the users choice. Display the details of the car along with the appropriate message whether the RADIO is ON or OFF. Also illustrate the concept used to write a program. | (05)  (Ch3,CLO3,L3) |
| c. | Explain any five System Data types. | (05)  (Ch2,CLO3,L2) |
| 2 | a. | Create a class AIRPLANE which contains fields as Name, TicketFares, Source, and Destination. Class should also contain a static data called noofplanes which keeps the count of total no of airplanes based on the no of objects created. Illustrating the concept of static methods & static data display all the information of the flight along with the total count of the flights. | (10)  (Ch2,CLO3,L3) |
|  | b. | What are the three pillars of object-oriented programming in C#? | (05)  (Ch3,CLO6,L6) |
|  | c. | Explain the concept of .NET binaries. Differentiate between single and multifile | (05)  (Ch1,CLO1,L2) |
| 3 | a. | Define a base class called ANIMAL with members name ,age and a method to display the name and age of the animal. Derive two classes named cat and Dog from Animal Class. Then ,write a driver program to create Cat and Dog objects with suitable values. Display the contents of objects by calling the Display method on the derived objects. | (10)  (Ch3,CLO1,L2) |
|  | b | Write a simple C# & VB.NET code to explain the difference between C# and VB.NET. | (05)  (Ch1,CLO4,L3) |
|  | c. | Distinguish between “out” & “ref” keywords. | (05)  (Ch2,CLO2,L2) |

Model question for ME-II

**Minor Exam: II Semester: VII**

**Course: C# PROGRAMMING AND .NET Course Code: ISE402**

**Note: Answer any two full questions Marks: 40 M**

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| 1 | a. | Differentiate between bugs, errors & exceptions. Explain with an example the role of NET in Exception Handling. | (10)  (Ch4,CLO6,L3) |
|  | b. | Write a C# program to add & substract 2 complex numbers by add( ) & substract( ) methods using delegates. | (10)  (Ch6,CLO5,L2) |
| 2 | a. | Demonstrate the role of explicit casting, the “as” keyword & the “is” keyword in obtaining interface references with an example code. | (10)  (Ch5,CLO4,L3) |
|  | b. | Create a C# class to use delegates to sort integers in ascending and descending order using comparator delegate. | (10)  (Ch6,CLO4,L3) |
| 3 | a. | Write a C# program to create a Car class with members as name, currentSpeed & maxSpeed. Set the initial speed and max speed for the car. If the car crosses the maxSpeed then raise an exception and display appropriate message. Also display the member type and method that has thrown exception. List all the methods used to write the code and handle the exceptions. | (10)  (Ch4,CLO3,L3) |
|  | b. | Explain different methods of invoking interface members at object level. | (05)  (Ch5,CLO4,L2) |
|  | c. | Give an example where interfaces can be used to support multiple inheritances. | (05)  (Ch5,CLO4,L2) |