**Introduction To .Net**

**Exercise**

Q1. What is the main component in the .Net Framework? (T)

**There are 4 main components of .Net Framework.**

**1)CLR(Common Language Runtime)**

CLR is a virtual machine component of Microsoft's .NET framework, manages the execution of .NET programs.

**2)CTS(Common type system)**

In Microsoft's .NET Framework, the CTS is a standard that specifies how type definitions and specific values of types are represented in computer memory.

**3)BCL(Base Class Library)**

Base class library is a collection of various classes from .net framework, from which all base classes like System.object, System.collection,.

**4)CLS(Common Language Specification)**

Itis a part of the specifications of the .NET Framework. CLS defines a subset of Common Type System (CTS) . CTS and *CLS* ensures language interoperability.

Q2. Current .Net Standard framework and Current core framework?`(T)

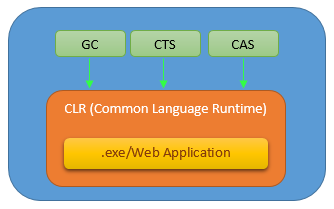
The **current** version of .**Net Standard** is 4.8 and . **Net** Core 3.1

Q3. Difference between Managed and Unmanaged code? (T)

**Managed Code**

In simple terms the code which is executed by CLR (Common Language Runtime) is called Managed Code, any application which is developed in .Net framework is going to work under CLR, the CLR internally uses the Garbage Collector to clear the unused memory and also used the other functionalities like CTS, CAS etc.

If we need to execute the Managed code application we must need to install .Net framework as we need CLR to execute this code.



**Unmanaged Code**

The unmanaged code is basically developed using other languages (other than .Net Framework), so it uses its own language runtime to execute the applications. The application runtime will take care of its memory management, security etc.

Q4. What do you mean by MSIL Code? (T)

**MSIL stands for Microsoft Intermediate Language.**

During the compile time , the compiler converts the source code into Microsoft Intermediate Language (MSIL) .Microsoft Intermediate Language (MSIL) is a CPU-independent set of instructions that can be efficiently converted to the native code. During the runtime the Common Language Runtime (CLR)'s Just In Time (JIT) compiler converts the Microsoft Intermediate Language (MSIL) code into native code to the Operating System

Q5. What is the difference between .Net and .Net Core Frameworks? (T)

.NET framework is a software framework developed by Microsoft which includes a runtime environment for creating Windows apps and web services. It covers a large class library called.NET framework class Library; which is a combination of classes, interfaces, and value types that provide access to system functionality.

**Whereas**

The .Net Core is a free and fully open-source cross-platform software framework for the Microsoft Windows, Apple macOS, and Linux operating systems that uses MIT and Apache 2 license. .NET Core simply a combination of the ASP.NET MVC and ASP.NET Web API available on GitHub.

Q6. Explain the execution process of managed code in .Net? (T)

**Execution Process**

Managed execution process includes the following steps:

