ANSWER 1:

There are Two basic stages for the code execution which has been discussed below.

1. Compiler time process.
2. Runtime process.

**Compiler time process:**

In compile time process source code is converted into byte code that is (MSIL+Meta Data)

using Net compiler.

SOURCE CODE -----.NET COMLIPER------> BYTE CODE (MSIL + META DATA)

**2. Runtime process.**

The Common Language Runtime (CLR) includes a JIT compiler for converting MSIL to native code.

BYTE CODE (MSIL + META DATA) ----- Just-In-Time (JIT) compiler------> NATIVE CODE

ANSWER 2:

It describes set of data types that can be used in different .Net languages in common. (i.e), CTS ensures that objects written in different .Net languages can interact with each other.  
  
For Communicating between programs written in any .NET complaint language, the types have to be compatible on the basic level.  
  
The common type system supports two general categories of types:  **Value types:**  
  
Value types directly contain their data, and instances of value types are either allocated on the stack or allocated inline in a structure. Value types can be built-in (implemented by the runtime), user-defined, or enumerations. **Reference types:**  
  
Reference types store a reference to the value's memory address, and are allocated on the heap. Reference types can be self-describing types, pointer types, or interface types. The type of a reference type can be determined from values of self-describing types. Self-describing types are further split into arrays and class types. The class types are user-defined classes, boxed value types, and delegates.

ANSWER 3:

The three services are as follow:

**Thread Support**: Threads are managed under the Common Language Runtime. Threading means parallel code execution. Threads are basically light weight processes responsible for multi-tasking within a single application.

**COM Marshaler**: It allows the communication between the application and COM objects.

**Debug Engine**: CLR allows us to perform debugging an application during runtime.

ANSWER 4:

The difference are as follow:

1 .EXE is an extension used for executable files while DLL is the extension for a dynamic link library.  
2 . An EXE file can be run independently while a DLL is used by other applications.  
3. An EXE file defines an entry point while a DLL does not.

ANSWER 5:

All types in .NET are either value types or reference types.

Value types are data types whose objects are represented by the object’s actual value. If an instance of a value type is assigned to a variable, that variable is given a fresh copy of the value.

Reference types are data types whose objects are represented by a reference (similar to a pointer) to the object’s actual value. If a reference type is assigned to a variable, that variable references (points to) the original value. No copy is made.

The common type system in .NET supports the following five categories of types:

* Classes
* Structures
* Enumerations
* Interfaces
* Delegates

It enforces security permissions at code level security, folder level security, and machine-level security using Dot Net Framework setting and tools provided by Dot Net.