

## MODULE 2

### TOPICS

(Client and Server Standards, .NET Framework Architectures, Framework Components, Designing Patterns (MVC))

#### Assignment Basic Level

B1. What is Dot Net?

- ⇒ Dot Net is collection of framework.
- ⇒ Dot Net is developed by Microsoft in 2000.
- ⇒ Develop console application, windows application, web application, mobile application

B2. What is CLR?

- ⇒ CLR is Common Language Runtime
- ⇒ It is an inbuilt component of .Net.
- ⇒ It converts MSIL to Machine language (Native code).
- ⇒ It is a Runtime Engine which provides services while executing the program.
- ⇒ Work Of CLR :-
  - Memory manager (Allocate memory).
  - Just in time (JIT) compiler (convert CIL to Machine language).
  - Garbage collector (De-allocate memory).
- ⇒ MSIL – Microsoft Intermediate Language.

B3. What is role of client?

- ⇒ Client is computer.
- ⇒ Client always sends requests to server.

B4. What is role of server?

- ⇒ Server is also a computer. Also called powerful computer.
- ⇒ Server processes client requests and sends responses to clients.

## Assignment Intermediate Level

### I1. What is difference between CLS and CTS?

#### **CLS:-**

- ⇒ CLS stands for Common language specification.
- ⇒ It defines the rules to support integration language in such a way that programs written in any languages like c#, VB.net, J#.
- ⇒ CLS is set of CTS.

#### **CTS:-**

- ⇒ CTS stands for Common Type System.
- ⇒ It defined the rules which common language runtime follows when declaring, using, and managing types.
- ⇒ It describes how types are declared, used and managed in the runtime.
- ⇒ CTS help developers to develop application in different languages.

### I2. What is role of compiler?

- ⇒ Converts high level language to low level language or machine dependent.
- ⇒ Works on a whole page at a single time.
- ⇒ Converts whole page into Object Code.
- ⇒ The object code is machine code that the processor can execute one instruction at a time.

### I3. What is difference between Compiler and Interpreter?

<b>Compiler</b>	<b>Interpreter</b>
Entire program at a time.	Single line of code, one instruction at a time.
Generate machine code.	Does not generate machine code.
Entire program compilation is done before execution.	Compilation and execution at a time.
Execution fast	Execution slower
Memory requirement is more to the creation of object code.	Require less memory, does not create intermediate object code.
Display all error after compilation at the same time.	Displays error of each one by one.
C, C++, C# uses compiler.	PHP, Python, uses interpreter.

## Assignment Advanced Level

**A1. What is communication protocol and what is difference between HTTP and HTTPS?**

- ⇒ Communication protocols are formal descriptions of digital message formats and rules.
- ⇒ They are required to exchange messages in or between computing systems and are required in telecommunications.
- ⇒ Communications protocols cover authentication, error detection and correction, and signaling. They can also describe the syntax, semantics, and synchronization of analog and digital communications.
- ⇒ Communications protocols are implemented in hardware and software.
- ⇒ There are thousands of communications protocols that are used everywhere in analog and digital communications.

### Difference between HTTP and HTTPS

HTTP	HTTPS
It is hypertext transfer protocol.	It is hypertext transfer protocol secured.
It is send data to server in plain text. So data can be hacks.	It is send data to server in encrypted. So data cannot hacks by hackers. it is secure.
It use port 80	It use port 443
HTTP URLs begin with http://	HTTPs URLs begin with https://
It is not secure on online transaction.	It is secure for online transaction.
it operates at TCP/IP level	Does not have any protocol ,it is use http but uses encrypted TLS/SSL connection

**A2. What do you mean by design pattern?**

- ⇒ Design pattern is one methodology to built application it provide a project structure.
- ⇒ A defined solution to a common problem.
- ⇒ It is template, not a solution.
- ⇒ Solution are reusable.

### A3. What is MVC?

- ⇒ MVC stands of Model View Controller.
- ⇒ MVC is a Design Pattern that separate an application into three main logical components: Model, View, Controllers.

### A4. What is client server architecture?

- ⇒ The client computer sends a request for data to the server via internet, server accepts the requested, and response to the client.
- ⇒ Clients and Servers are two different computers in different parts that are connected via Internet.

### A5. What is difference between Asp.Net and MVC.Net?

- ⇒ Asp.net is a web platform which provide a layer that sits on top of IIS(the web server)
- ⇒ Mvc.net is a frameworks which is specially for building web application. Sits on top of Asp.net.
- ⇒ Asp.net is not open source and Mvc.net is an open source.
- ⇒ Mvc.net is developer friendly because it separates view and model and controller.