**DOT NET CORE – INTRODUCTION**

1. Explain ASP.NET Core

* ASP.NET Core is a cross - platform, high performance, open-source framework for building modern, cloud-enabled, intenet-connected apps.

With ASP.NET.Core, you can:

* + - Build web apps and services, internet things (IoT) apps, and mobile backends.
    - Use your favorite development tools on windows, macOS, and Linux.
    - Deploy to the cloud or on-premises.
    - Run on .NET.

2.Explain the key differences between ASP.NET Core and ASP.Net

ASP.NET Core

Build for windows, macOS, or Linux

Multiple versions per machine

Develop with visual studio, visual studio for mac, or visual studio using c# or F#.

Higher performance than ASP.NET 4.x.

Use .NET core runtime.

ASP.NET

Build for windows

One version per machine

Develop with visual studio using c#, VB , or

F#.

Good performance.

Use .NET framework runtime.

3. What are the main components of dot net core?

* + CLI Tools: A set of tooling for development and deployment.
  + Roslyn: Language compiler for c# and visual basic.
  + CoreFx: Set of framework libraries.
  + CoreCLR: AJIT based CLR (common language runtime.)

1. 4. What are some characteristics of dot net core?
2. **Cross-platform Compatibility:**As mentioned earlier, .NET Core's ability to run on multiple platforms makes it an ideal choice for developers seeking platform independence.
3. **High Performance:**Thanks to its lightweight architecture and optimized runtime, .NET Core offers superior performance compared to its predecessor, especially in scenarios where resource efficiency is critical.
4. **Container Support:**.NET Core has native support for containerization technologies such as Docker, allowing developers to package their applications and dependencies into portable containers for deployment in any environment.
5. **Modern Language Features:** .NET Core supports modern language features and programming paradigms, including asynchronous programming, pattern matching, and functional programming constructs, enabling developers to write cleaner, more expressive code.
6. **Modular Design:**The modular design of .NET Core allows developers to include only the necessary components in their applications, reducing the overall footprint and improving maintainability.

5.Latest version of dot net core?

.NET 7.0

1. How is .NET Core SDK different from .NET Core Runtime?

The software development kit (**SDK**) includes everything you need to build and run .NET Core applications, using command-line tools and any editor (like Visual Studio).

The **runtime** includes everything you need to run .NET Core applications. The runtime is also included in the SDK.

7.Explain Docker in .NET Core.?

Docker is a tool that helps you to create, ship, and run application inside containers. containers are small, portable boxes that hold everything your app needs to run.

8. Share specific features of .NET Core?

* Asynchronous code
* Attributes
* Reflection
* Code analyzers
* Delegates and lambdas
* Events
* Exceptions
* Garbage collection
* Generic types
* LINQ (Language Integrated Query).
* Parallel programming
* Type system
* Unsafe code