**INSTRUCTIONS**

**Please read the instructions carefully before doing the questions.**

* You are **NOT allowed** to use any other materials. You are **NOT allowed** to use any device to share data with others.
* You must use **Visual Studio 2019 or above, MSSQL Server 2008 or above** for your development tools.

**IMPORTANT – before you start doing your solution, MUST do the following steps:**

1. To do your program, you must use **ASP.NET Core** Razor Pages. Note that *you are not allow to connect direct to database from Razor Pages, every database connection must be used through Repository and Data Access Objects. The database connection string must get from appsettings.json file.*

***In the case your code connects directly to database from ASP.NET Core Razor Pages, you will get 0 mark.***

1. ***If there are syntax errors or compilation errors in your PE program, you will not pass the PE requirements, the mark will be 0.***
2. Create Solution in Visual Studio named **PRN221PE\_SU23\_TrialTest\_StudentName**. Inside your Solution, the Project ASP.NET Core Razor Page must be named: **AuthorInstitution\_StudentName.**
3. Create your MS SQL database named **AuthorInstitution2023DB** by running code in script **AuthorInstitution2023DB.sql.**
4. Set the default user interface for your project as **Login** page.

**REFERENCES *(this session just for reference, student can use other approach to do the practical exam)***

***Note***

Install package using Tools → NuGet Package Manager → Package Manager Console

Install-Package Microsoft.EntityFrameworkCore.SqlServer -Version 5.0.17

Install-Package Microsoft.EntityFrameworkCore.Tools -Version 5.0.17

Install-Package Microsoft.EntityFrameworkCore.Design -Version 5.0.17

Install-Package Microsoft.Data.SqlClient -Version 3.0.1 *(for ADO.NET option)*

Install-Package Microsoft.Extensions.Configuration -Version 5.0.0

Install-Package Microsoft.Extensions.Configuration.Json -Version 5.0.0

- Install package using CLI or Power Shell

dotnet add package Microsoft.EntityFrameworkCore.SqlServer --version 5.0.17

dotnet add package Microsoft.EntityFrameworkCore.Design --version 5.0.17

dotnet add package Microsoft.EntityFrameworkCore.Tools --version 5.0.17

dotnet add package Microsoft.Data.SqlClient --version 3.0.1 *(for ADO.NET option)*

dotnet add package Microsoft.Extensions.Configuration ---version 5.0.0

dotnet add package Microsoft.Extensions.Configuration.Json --version 5.0.0

- Connection String

"Server=(local);Uid=sa;Pwd=**1234567890**;Database=**AuthorInstitution2023DB**"

Entity Framework Core

*- Install dotnet-ef for CLI*

dotnet tool install --global dotnet-ef --version 5.0.17

*- Use Entity Framework Core to generate Object Model from existing database – CLI*

dotnet ef dbcontext scaffold "Server=(local);Uid=sa;Pwd=**1234567890**;Database=**AuthorInstitution2023DB**" Microsoft.EntityFrameworkCore.SqlServer --output-dir Models

*- Generate database from domain classes – CLI.*

dotnet ef migrations add "InitialDB"

dotnet ef database update

Entity Framework Core

*- Use Entity Framework Core to generate Object Model from existing database – Package Manager Console*

Scaffold-DbContext "Server=(local);Database=**AuthorInstitution2023DB;**Uid=sa;Pwd=1234567890;" Microsoft.EntityFrameworkCore.SqlServer -OutputDir Models

*- Generate database from domain classes – Package Manager Console*

Add-Migration "InitialDB"

Update-Database -verbose