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May 2026

B.SC. (AM) IV SEMESTER

C# Programming Language

(AMU–204–V)

Time : 3 Hours]

[Maximum Marks : 75

Instructions :

1. *It is compulsory to answer all the questions (1.5 marks each) of Part-A in short.*
2. *Answer any **four** questions from Part-B in detail.*
3. *Different sub-parts of a question are to be attempted adjacent to each other.*

PART–A

1. (a) What is CLS (Common Language Specification)? (1.5)

   (b) Define Managed and Unmanaged Code. (1.5)

   (c) What is the role of CLR in .NET? (1.5)

   (d) Explain Namespaces in C#. (1.5)

   (e) Define connected and disconnected architecture. (1.5)

   (f) What is the use of **using** statement in C#? (1.5)

(g) What is Multithreading in C#? (1.5)

(h) Define Strongly Typed Controls. (1.5)

(i) What is connection pooling in ADO.NET? (1.5)

(j) What is a DataAdapter? (1.5)

PART–B

2. Explain three-tier architecture in .NET applications with diagram and example. (15)

3. (a) Explain the concept of ADO.net with suitable diagram/ Table. (7.5)

   (b) Discuss exception handling mechanism in C#. Explain try, catch, finally, throw, and custom exceptions with a program. (7.5)

4. (a) Explain steps to connect to a database in ADO.NET. (7.5)

   (b) Create a program demonstrating delegates and events in C#. Explain how they are used in real-world applications. (7.5)

5. (a) Differentiate authentication and authorization. Explain various types of authentication in asp.net. (7.5)

   (b) Develop an application for student registration that includes:

   - Form controls
   - Validation controls
   - Data storage using ADO.NET (7.5)

6. (a) What are the different parameter passing techniques in C#? Explain with a program. (7.5)

   (b) Explain CRUD operations in ADO.NET. Write code to insert, update, and delete records. (7.5)

7. Write detailed note on :

   (a) Assemblies and Deployment. (5)

   (b) Versioning in .NET. (5)

   (c) GAC (Global Assembly Cache). (5)