

GUJARAT TECHNOLOGICAL UNIVERSITY
DIPLOMA IN INFORMATION TECHNOLOGY

SEMESTER- VI

Subject Name: **PROGRAMMING WITH C#**

| Sr. No. | Subject Content | Hrs. |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| 1 | 1.0 NET ARCHITECTURE 1.1 The Relationship of C# to .NET 1.2 The Common Language Runtime 1.3 Assemblies 1.4 .NET framework Classes 1.5 Namespaces 1.6 Creating .NET Application Using C# | 5 |
| 2 | 2.0 C# BASIC 2.1 Compiling and Running Program 2.2 Variables 2.3 Predefined Data Types 2.4 Flow Control 2.5 Enumerations 2.6 Arrays 2.7 Namespaces 2.8 The Main() Method 2.9 C# Processor Directives (#define, #undef, #if, #elif, #endif, #pragma) | 4 |
| 3 | 3.0 OBJECTS & TYPES 3.1 Class members 3.2 Read-only fields 3.3 Structs 3.4 Partial & Static Class 3.5 The Object Class | 4 |

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| 4 | 4.0 OPERATORS & CASTS 4.1 The Ternary ,Checked & Unchecked ,Is, as , sizeof, Type of Operators, Nullable Types and Operators, Operator Precedence 4.2 Type Safety 4.3 Operator Overloading 4.4 User defined casts | 4 |
| 5 | 5.0 DELEGATES & EVENTS 5.1 Delegates 5.2 Anonymous Methods 5.3 Events | 6 |
| 6 | 6.0 MEMORY MANAGEMENT 6.1 Value data type, Reference Data type and Garbage Collection 6.2 Freeing Unmanaged Resources 6.3 Unsafe Code | 4 |
| 7 | 7.0 STRING & EXPRESSIONS 7.1 System String 7.2 Regular Expressions | 4 |
| 8 | 8.0 INHERITANCE 8.1 Types of Inheritance 8.2 Implementation Inheritance (Virtual methods, hiding methods, abstract classes, sealed classes) 8.3 Visibility and other Modifiers 8.4 Interfaces | 6 |
| 9 | 9.0 ERRORS & EXCEPTIONS 9.1 Exception Classes 9.2 Catching Exceptions 9.3 User-defined Exception Classes | 5 |
| | Total | 42 |

NOTE:- Following are the minimum experiences required, but the college can do more experiences if possible.

Laboratory Experiences:

Student should write programs on the basic of prescribed Syllabus of this Course. It should include the following.

1. Class & Object related programs.
2. Programs using the control structure of C#
3. Array, enumerations data type etc.
4. Function and operator overloading
5. Creating user defined casting.
6. Delegate and event oriented programs.
7. String Handling programs.
8. Using Inheritance
9. Exception handling programs

Reference Books:

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|------------------------|--------------------------------|-----------|
| 1. Programming with C# | Balagurusamy | TMH |
| 2. Inside C# | Tom Archer, Andrew Whitechapel | Microsoft |
| 3. Professional C# | Simon Robinson | Wrox |
| 4. Complete C# | Shield | TMH |