

Bachelor of Computer Application
(Semester – 3 and Semester - 4)
Saurashtra University
Effective from June - 2023

CS – 20 PROGRAMMING WITH C#				
Objectives:				
<ul style="list-style-type: none"> Demonstrate knowledge of object-oriented concepts Design user experience and functional requirements C#.NET application. 				
Prerequisites:				
<ul style="list-style-type: none"> Basic Knowledge of C # programming language and .NET environment. 				
No	Topics	Details	Marks weight In %	Min Lec.
1	.NET Framework and Visual Studio IDE, Language Basics	Introduction to .NET Framework Features / Advantages CLR, CTS and CLS BCL / FCL / Namespaces Assembly and MetaData JIT and types Managed Code and Unmanaged Code Introduction to .NET Framework and IDE versions Different components (windows) of IDE Types of Projects in IDE (Console, Windows, Web, Setup, etc.) Data Types (Value Type & Reference Type) Boxing and UnBoxing Operators (Arithmetic, Relational, Bitwise, etc.) Arrays (One Dimensional, Rectangular, Jagged) Decisions (If types and switch case) Loops (for, while, do..while, foreach)	20	10
2	Class and Inheritance, Property, Indexer, Pointers, Delegates, Event, Collections	Concept of Class, Object, Encapsulation, Inheritance, Polymorphism Creating Class and Objects Methods with “ref” and “out” parameters Static and Non-Static Members Constructors	20	15

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		<p>Overloading Constructor, Method and Operator Inheritance Sealed Class & Abstract Class Overriding Methods Interface inheritance Creating and using Property Creating and using Indexer Creating and using Pointers (unsafe concept) Creating and using Delegates (Single / Multicasting) Creating and using Events with Event Delegate Collections (ArrayList, HashTable, Stack, Queue, SortedList) and their differences.</p>		
3	Windows Programming	<p>Creating windows Application MessageBox class with all types of Show() method Basic Introduction to Form and properties Concept of adding various Events with event parameters Different Windows Controls</p> <ul style="list-style-type: none"> - Button - Label - TextBox - RadioButton - CheckBox - ComboBox - ListBox - PictureBox - ScrollBar - TreeView - Menu (MenuStrip, ContextMenuStrip) - ToolStrip - Timer - Panel and GroupBox <p>Dialog Boxes (ColorDialog, FontDialog, SaveFileDialog and OpenFileDialog)</p> <p>MDI Concept with MDI Notepad</p>	20	15

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		Concept of Inheriting Form		
4.	Database Programming with ADO.NET	Concept of Connected and Disconnected Architecture Data Providers in ADO.NET Connection Object Connected Architecture <ul style="list-style-type: none"> - Command - DataReader Disconnected Architecture <ul style="list-style-type: none"> - DataAdapter - DataSet - DataTable - DataRow - DataColumn - DataRelation - DataView Data Binding GridView Programming	20	12
5	User Controls (Components), Crystal Reports, Setup Project	Creating User Control with <ul style="list-style-type: none"> - Property - Method - Event Using User Control in Windows, Projects as component, Creating Crystal Reports Types of Reports Report Sections Formula, Special Field and Summary in Report Types of Setup Projects Creating Setup Project <ul style="list-style-type: none"> - File System Editor - User Interface Editor - Launch Conditions Editor 	20	8
		Total	100	60

Students seminar - 5 Lectures
 Expert Talk - 5 Lectures
 Students Test - 5 Lectures
TOTAL LECTURES 60+15 = 75