

**SARDAR PATEL UNIVERSITY**  
**Programme: BCA**  
**Semester: IV**  
**Syllabus with effect from: June 2019**

Paper Code : <b>US04CBCA21</b>	Total Credit: 4
Title of Paper: <b>Visual Programming</b>	

Lectures per week : 4

Exam Duration: 3hrs

All units carry equal weightage.

<b>UNIT</b>	<b>Description In Detail</b>	<b>Weightage</b>
<b>I</b>	<b>Introduction to .NET Framework (4.5) and VB.NET</b>	<b>25%</b>
	.NET Architecture, .NET Languages, Microsoft Intermediate Language (MSIL), The Just-In-Time (JIT) compiler, Working with Assemblies, The .NET framework class library VB.NET – introduction, applications and types of project Introduction to Visual Studio IDE Creating simple Windows Application using VB.NET Variables, data types, constants and operators Type casting, Boxing and Unboxing, Working with arrays and strings Creating simple Windows Application using VB.NET	
<b>II</b>	<b>Fundamentals of VB.NET</b>	<b>25%</b>
	VB.NET Basics Use of conditional statement (if), Multi branching statement (select) and With...End With statement, Looping Statement: DO, FOR, FOR EACH..NEXT and WHILE, Working with EXIT, CONTINUE and WITH statements Working with procedures – introduction, types, use of parameters, parameter passing, calling procedures OOP concepts - Encapsulation, Inheritance, Interfaces and Polymorphism Working with modules, classes (partial) and namespaces Working with Windows Forms – introduction, life cycle, basic properties, methods and events, use of simple windows forms control. Working with SDI and MDI forms	
<b>III</b>	<b>Developing Windows Forms, Exception Handling</b>	<b>25%</b>
	Working with basic controls – Button, CheckBox, CheckedListBox, ComboBox, DateTimePicker, GroupBox, HScrollBar, RadioButton, VscrollBar, Label, ListBox, PictureBox, TextBox and Time controls. Working with advanced controls – LinkLabel, RichTextBox, ColorDialog, FontDialog, TreeView, Error Provider Control Working with modules, classes (partial) and namespaces Error Handling: exception, structured exception using try...catch and final statement	
<b>IV</b>	<b>Database with ADO.NET</b>	<b>25%</b>
	Persisting Data Using Databases and Files ADO.NET – introduction and applications ADO.NET – architecture (connected and disconnected) Database connectivity using ADO.NET Use of Data sources, Server Explorer and working with DataSet Populating data in a DataGridView Working with report	

**Basic Text & Reference Books :-**

1. Steven Holzner; VB.NET Black Book by Dreamtech publication
2. Francesco Balena : Programming Microsoft Visual Basic.NET, Microsoft Press  
Bill Evjen, Billy Hollis, Bill Sheldon, Kent Sharkey and Tim McCarthy : Professional VB 2005 with .NET 3.0