

SEMESTER IV

Course Code	UCA20401J	Course Name	WINDOWS PROGRAMMING USING VB.NET	Course Category	C	Professional Core Course	L	T	P	C
							4	0	4	6

Pre-requisite Courses	Nil	Co-requisite Courses	Nil	Progressive Courses	Nil
Course Offering Department	Computer Applications	Data Book / Codes/Standards			Nil

Course Learning Rationale (CLR):		Learning			Program Learning Outcomes (PLO)														
		1	2	3	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CLR-1 :	Understand the basic structure of VB.Net and features of IDE	Level of Thinking (Bloom)	Expected Proficiency (%)	Expected Attainment (%)	Fundamental Knowledge	Application of Concepts	Link with Related Disciplines	Procedural Knowledge	Skills in Specialization	Ability to Utilize Knowledge	Skills in Modeling	Analyze, Interpret Data	Investigative Skills	Problem Solving Skills	Communication Skills	Analytical Skills	ICT Skills	Professional Behavior	Life Long Learning
CLR-2 :	Understand .NET framework and can realize some of the major enhancements in the new version of VB				L	H	-	H	L	-	-	-	L	L	-	H	-	-	H
CLR-3 :	Develop programs using primitives and constructs in VB .NET				M	H	L	M	L	-	-	-	M	L	-	H	-	-	H
CLR-4 :	Handle controls in Forms(message Box, InputBox), Windows MDI forms and Controls (Textbox, Creating MultiLine, Word Wrap textboxes)				M	H	M	H	L	-	-	-	M	L	-	H	-	-	H
CLR-5 :	Understand various controls in VB.NET and able to develop programs using controls				M	H	M	H	L	-	-	-	M	L	-	H	-	-	H
CLR-6 :	Connect database by using ADO.NET and manipulate the database				H	H	M	H	L	-	-	-	M	L	-	H	-	-	H
		L	H	M	H	L	-	-	-	L	L	-	H	-	-	H			
Course Learning Outcomes (CLO):		Learning			Program Learning Outcomes (PLO)														
		1	2	3	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
At the end of this course, learners will be able to:																			
CLO-1 :	Design/develop programs with GUI interfaces	3	80	70	L	H	-	H	L	-	-	-	L	L	-	H	-	-	H
CLO-2 :	Assemble multiple forms, modules, and menus into working VB.NET solutions	3	85	75	M	H	L	M	L	-	-	-	M	L	-	H	-	-	H
CLO-3 :	Develop menu based program for text manipulation	3	75	70	M	H	M	H	L	-	-	-	M	L	-	H	-	-	H
CLO-4 :	Implement lists and loops with VB.NET controls and iteration	3	85	80	M	H	M	H	L	-	-	-	M	L	-	H	-	-	H
CLO-5 :	Understand ADO .NET and develop database applications	3	85	75	H	H	M	H	L	-	-	-	M	L	-	H	-	-	H
CLO-6 :	Develop the applications using DataGrid for displaying records	3	80	70	L	H	M	H	L	-	-	-	L	L	-	H	-	-	H

Duration (hour)	24	24	24	24	24
S-1	SLO-1 Evolution of the .NET Framework	Control Statements	Inheritance	Exception Handling	Single Document Interface(SDI)
	SLO-2 Overview of the .Net Framework	If Statement	Polymorphism	Default Exception Handling Mechanism	Multiple Document Interface (MDI)
S-2	SLO-1 Components of .NET Framework	Radio Button Control	Virtual Methods	User Defined Exception Handling Mechanism	Implementation for SDI and MDI
	SLO-2 Common Language Runtime (CLR)	Check Box Control	Abstract classes	Implementation for Default and User Defined Exception Handling	Dialog Boxes
S-3	SLO-1 Common Type System(CTS)	List Box Control	Abstract Methods	The Throw Statement	Modal Dialog Box
	SLO-2 Common Language Specification (CLS)	Group Box Control	Sealed Classes	Implementation for Throw Statement	Modeless Dialog Box
S-4	SLO-1 Framework Class Library (FCL)	Checked List Box Control	Interfaces - Definition of an Interface	Custom Exception	Implementation for Modal and

						Modeless Dialog Boxes
	SLO-2	Base Class Library	Combo Box Control	Declaration of an Interface	Implementation for Custom Exception	Built-in Dialog Boxes
S 5-8	SLO-1	Lab1: Understanding the IDE of Visual Studio, Changing background and foreground color using toolbox controls	Lab 4: String Handling Functions, Applications using group box, list box, checked list box, combo box	Lab 7: Connecting to URL using Link Label, Paint Brush Application, Application for implementing the concept Abstract class and abstract methods	Lab 10: Application using default and User Defined Exception Handling Mechanism	Lab 13: Develop applications using SDI and MDI
	SLO-2					
	SLO-3					
	SLO-4					
S-9	SLO-1	AJAX	Select ... Case Statement	Usage of Interface	Multithreading	Implementation for Dialog Boxes
	SLO-2	Windows Forms	While Statement	Implementation of an Interface	Usage of Threads	ToolBar Control
S-10	SLO-1	ASP.Net	Do Statement	Multiple Implementation of an Interface	Thread Class	Implementation for ToolBar Control
	SLO-2	ADO.Net	For Statement	Interface Inheritance	Start(), Abort() Methods	StatusBar Control
S-11	SLO-1	Benefits of .Net	Methods	Namespaces	Join() and Sleep() Methods	Implementation for StatusBar Control
	SLO-2	VB.NET Language	Types of methods	Implementation of an Namespace	Suspend() Method	Database Connectivity – Introduction
S-12	SLO-1	Development of Simple VB.Net Program	Arrays, One-dimensional Array	Components	Resume() Method	Advantages of ADO.NET
	SLO-2	Variable declaration and Initialization	Multidimensional Array	Creation of a Component	Implementation for Thread Class	Managed Data Providers
S 13-16	SLO-1	Lab2: Computing area of rectangle, circle, square, Designing Math Calculator	Lab 5: Digital clock using Timer control, Design of Animation application	Lab 8: Application using ImageList, Loading pictures into picture box, Application using Interface, Components	Lab 11: Application using Thread class, Multithreading	Lab 14: Textpad Application using Dialog control, Toolbar Application, Notepad Editor
	SLO-2					
	SLO-3					
	SLO-4					
S-17	SLO-1	Value Data Types	Jagged Array	Access Modifiers	Thread Priority	Developing a Simple ADO.NET Based Application
	SLO-2	Reference Data Types	Definition of Class	Implementation for Public Access Modifier	Synchronization	Creation of a Data Table
S-18	SLO-1	Boxing	Usage of Class	Implementation for Private Access Modifier	I/O Streams	Retrieving Data from Tables
	SLO-2	UnBoxing	Constructor Overloading	Implementation for Protected Access Modifier	Binary Data Files	Table Updating
S-19	SLO-1	Arithmetic Operators	Copy Constructor	Implementation for Friend Access Modifier	Text Files	Disconnected Data Access Through Dataset Object
	SLO-2	Text Box Control	Instance Class Members	Implementation for Protected Friend Access Modifier	Data Files	Object Model Data set Class
S-20	SLO-1	Label Control	Shared Class Members	Implementation for Polymorphism	FileInfo classes	SQL Provider
	SLO-2	Button Control	Shared Constructors	Implementation for Abstract Class and Abstract Methods	DirectoryInfo Classes	OleDb Provider
S 21-24	SLO-1	Lab 3: Shopping Cart Application, Student Marksheet, Application using text box control, Label and Button control	Lab 6: Sorting array in ascending and descending order, Implementing Constructor, Copy Constructor and Shared Constructor	Lab 9: Application using Sealed Class, Polymorphism, Access Modifiers	Lab 12: Application for implementing Thread priority, Synchronization, and files	Lab 15: Employee Database design with coding, Retrieving data using Grid control, Marksheet preparation using ADO.Net

Learning Resources	1. Muthu.C (2008), "Visual Basic.Net", 2 nd Ed, Vijay Nicole Imprints Pvt., Ltd, 2. Jeffrey R.Shaprio (2002), "Visual Basic .NET The Complete Reference", Mac Graw Hill	3. Michael Halvorson (2010), "Visual Basic 2010 Step by Step", Microsoft Press. 4. Harold Davis (2002), "Visual Basic.NET Programming", Sybex.
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Learning Assessment											
Level	Bloom's Level of Thinking	Continuous Learning Assessment (50% weightage)								Final Examination (50% weightage)	
		CLA – 1 (10%)		CLA – 2 (10%)		CLA – 3 (20%)		CLA – 4 (10%)#			
		Theory	Practice	Theory	Practice	Theory	Practice	Theory	Practice	Theory	Practice
Level 1	Remember	20%	20%	15%	15%	15%	15%	15%	15%	15%	15%
	Understand										
Level 2	Apply	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
	Analyze										
Level 3	Evaluate	10%	10%	15%	15%	15%	15%	15%	15%	15%	15%
	Create										
	Total	100 %		100 %		100 %		100 %		100 %	

CLA – 4 can be from any combination of these: Assignments, Seminars, Tech Talks, Mini-Projects, Case-Studies, Self-Study, MOOCs, Certifications, Conf. Paper etc.

Course Designers		
Experts from Industry	Experts from Higher Technical Institutions	Internal Experts
Mr.G.Muruganandam, Group Project Manager, HCL Technologies, Chennai	Dr.S.Gopinathan, Professor, University of Madras, Chennai	Mrs. Dayana, SRM IST
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