

GUJARAT TECHNOLOGICAL UNIVERSITY

DIPLOMA IN INFORMATION TECHNOLOGY

Semester: 4

Subject Name VISUAL BASIC

Sr.No	Course content
1.	<p>1. Introduction to Visual Basic</p> <p>1.1. Programming Languages</p> <p style="padding-left: 20px;">1.1.1. Procedural, Object Oriented & Event Driven</p> <p style="padding-left: 20px;">1.1.2. P-code, Source code, Native Code</p> <p>1.2. The Visual Basic Programming Environment</p> <p style="padding-left: 20px;">1.2.1. Menu bar</p> <p style="padding-left: 20px;">1.2.2. Toolbar</p> <p style="padding-left: 20px;">1.2.3. Toolbox</p> <p style="padding-left: 20px;">1.2.4. Form Window</p> <p style="padding-left: 20px;">1.2.5. Project Container Window</p> <p style="padding-left: 20px;">1.2.6. Project Window</p> <p style="padding-left: 20px;">1.2.7. Properties Window</p> <p style="padding-left: 20px;">1.2.8. Form Layout Window</p> <p style="padding-left: 20px;">1.2.9. Object Model</p> <p style="padding-left: 40px;">1.2.9.1. Objects, Methods, Properties, Events</p>
2.	<p>2. Standard Controls of Visual Basic</p> <p>2.1. Clicking Buttons to Perform Actions</p> <p>2.2. Controls For Displaying and Entering the Text</p> <p style="padding-left: 20px;">2.2.1. Textbox</p> <p style="padding-left: 20px;">2.2.2. Label</p> <p>2.3. Controls That Presents choices to Users</p> <p style="padding-left: 20px;">2.3.1. Selecting Individual Options with Check Boxes</p> <p style="padding-left: 20px;">2.3.2. Grouping Options with Option Buttons</p> <p style="padding-left: 20px;">2.3.3. Using List Boxes & Combo Boxes</p> <p style="padding-left: 20px;">2.3.4. Using Scrolling Bars As Input Devices</p> <p style="padding-left: 20px;">2.3.5. Controls That Display Pictures & Graphics</p> <p style="padding-left: 40px;">2.3.5.1. Picture Box</p> <p style="padding-left: 40px;">2.3.5.2. Image, Shape & Line Controls</p> <p>2.4. Data Access Controls</p> <p style="padding-left: 20px;">2.4.1. Data Controls, ADO data control, Datalist, Datacombo, Datagrid, Microsoft Hierarchical Flexgrid Control</p> <p>2.5. File System Controls</p> <p style="padding-left: 20px;">2.5.1. DriveListBox</p> <p style="padding-left: 20px;">2.5.2. DirListBox</p> <p style="padding-left: 20px;">2.5.3. FileListBox</p> <p>2.6. Miscellaneous Controls</p> <p style="padding-left: 20px;">2.6.1. Timer</p> <p style="padding-left: 20px;">2.6.2. OLE</p> <p style="padding-left: 20px;">2.6.3. Common Dialog Control</p> <p>(Properties should be covered: Backcolor, Controlbox, Height, width, scalemode, windowstate, showintaskbar, visible, name, caption, text, forecolor, Icon, cancel, enabled, style, Tabindex, tabstop, tooltiptext,</p>

	<p>locked, passwordchar, scrollbars, autosize, font, borderstyle, value, wordwrap, columns, list, listcount, multiselect, newindex, selected, sorted, picture, interval, largechange, smallchange, drive, path. Etc.) (Events: Activate, Deactivate, DragDrop, Load, Resize, Unload, Paint, Initialize, QueryUnload, Terminate, Click, Mousedown, Mouseup, Change, Validate, DbIclick, Dropdown, Timer, Change, Scroll, Pathchange, Patternchange, gotfocus, lostfocus, keypress, keydown, change etc.) (Methods: Hide, show, unload, setfocus, additem, clear, refresh, removeitem, circle, cls, line, paintpicutre, Zorder, etc.)</p>
3.	<p>3. Working with Menus</p> <p>3.1. Basics of menu 3.1.1. Menu title, Menu Item, Menu bar, Separator Bar, Menu</p> <p>3.2. Pop-up Menus</p> <p>3.3. Add an access key to menu item</p> <p>3.4. Assign shortcut key to a menu item</p> <p>3.5. Disable menu & Enable a menu command by using program code</p>
4.	<p>4. The Structure of a Visual Basic Project</p> <p>4.1. Types Of Modules 4.1.1. Form Modules 4.1.2. Class Modules 4.1.3. Standard Modules</p> <p>4.2. MDI 4.2.1. Parent-Child Relationship</p>
5.	<p>5. Variables, Constants, Data Types, Operators</p> <p>5.1. Variables 5.1.1. Declaring Variables 5.1.2. Storing and Retrieving Data in Variables 5.1.3. Implicit & Explicit Declaration</p> <p>5.2. Scope of Variables 5.2.1. Private, Public & Local Variable 5.2.2. Variables Used within a Module 5.2.3. Variables Used by all Modules</p> <p>5.3. Static Variables</p> <p>5.4. Constants</p> <p>5.5. Data Types 5.5.1. Numeric, String, Byte, Boolean, Date, Object, Variant, Currency, Floating Point 5.5.2. Converting Data Types 5.5.3. User Defined Data Types (Type.... End Type)</p> <p>5.6. Arrays 5.6.1. Fixed Size Array 5.6.1.1. Declaring Fixed Size Array 5.6.1.2. Setting Upper and Lower Bound 5.6.1.3. Multidimensional Array</p>

	<ul style="list-style-type: none"> 5.6.2. Dynamic Arrays <ul style="list-style-type: none"> 5.6.2.1. To Create a Dynamic Array 5.6.2.2. Preserving the contents of Dynamic Array 5.7. Operators <ul style="list-style-type: none"> 5.7.1. Arithmetic Operators 5.7.2. Comparison Operators 5.7.3. Concatenation Operators 5.7.4. Logical Operators
6.	<p>6. Procedures & Control Structures</p> <ul style="list-style-type: none"> 6.1. Sub Procedures <ul style="list-style-type: none"> 6.1.1. General Procedure 6.1.2. Event Procedure 6.2. Function Procedure 6.3. Working with Procedure <ul style="list-style-type: none"> 6.3.1. Creating a New Procedure 6.3.2. Calling Procedures, Sub Procedures, Function Procedure, Calling procedure in Other Modules, Procedures in Form, Procedures in Class Modules, Procedures in Standard Modules 6.4 Passing Arguments to Procedures <ul style="list-style-type: none"> 6.4.1 Passing Arguments By Value & Passing Arguments By Reference 6.4.2 Named Argument 6.4.3 Parameter Array : Variable no of arguments 6.5 Control Structure 6.6 Decision Structures <ul style="list-style-type: none"> 6.6.1 If...Then 6.6.2 If....Then....Else 6.6.3 Select.....Case 6.7 Loop Structures <ul style="list-style-type: none"> 6.7.1 Do....Loop (Do While ...Loop, Do Loop While) 6.7.2 For....Next 6.7.3 For Each.....Next 6.8 Exiting From Control Structures, Sub or Function Procedures
7.	<p>7 Inbuilt Functions</p> <ul style="list-style-type: none"> 7.1 System Clock Functions <ul style="list-style-type: none"> 7.1.1 Time, Date, Now, Hour, Minute, Second, Day, Month, Year, Weekday 7.2 String Functions <ul style="list-style-type: none"> 7.2.1.1 Ucase, Lcase, Len, Right, Left, Mid, Instr, String, Asc,Chr, Xor 7.3 Math Functions <ul style="list-style-type: none"> 7.3.1.1 Abs, Atn, Cos, Exp, Rnd, Sgn,,Sin, Sqr, Str, Tan, Val 7.4 InputBox & MsgBox 7.5 Format function
8.	<p>8 Error Handling & Debugging</p> <ul style="list-style-type: none"> 8.1 With Error Statement

	<ul style="list-style-type: none"> 8.1.1 On Error Goto line 8.1.2 On Error Resume Next 8.1.3 On Error Goto 0 8.1.4 Err Object 8.2 Debugging Tools <ul style="list-style-type: none"> 8.2.1 Immediate Window 8.2.2 Local Window 8.2.3 Watch Window 8.2.4 Call Stack 8.2.5 Step into, Step out, Step Over 8.2.6 Break Point 8.3 Debug Object <ul style="list-style-type: none"> 8.3.1 Print & Assert Methods
9.	<p>9 Database Handling</p> <ul style="list-style-type: none"> 9.1 Use of ADO to build bound forms 9.2 Use of ADO to build unbound forms (Active X Data object) (Use all Data Access Controls which is given 2.4.1) 9.3 Using the Data Environment Designer <ul style="list-style-type: none"> 9.3.1 Steps to Design Report <ul style="list-style-type: none"> 9.3.1.1 Creating Connection in the Data Environment 9.3.1.2 Creating Command Objects 9.3.1.3 Binding Data Controls on the Form 9.3.1.4 Creating Child Command Objects 9.3.2 Using Data Reports (Also Use parameterized query to call report)

LABORATORY EXPERIENCES:

1. Design a simple application which enhance the use of textbox, label, command button, option button, check boxes, frame controls
2. Design a simple application which enhance the use of ComboBox, ListBox (To add an item, Remove an item, to search the item etc.)
3. Design a simple application which make use of image control, picture box, timer controls, Scroll bars
4. Make use of Line & Shape control
5. Make an application which is relevant to File system controls & Common dialog box control
6. Explore the OLE control
7. Develop an application which enhance the standard module, class modules & Form modules
8. Develop a menu with MDI forms
9. Develop some error handling routines in your application
10. Develop a small database management system using ADO.

11. ActiveX objects.
Reports using Data Environment

Reference Books:

1. Visual Basic Bready TMH
2. Mastering VB 6 BPB
3. Peter Norton's Guide To Visual Basic 6 Peter Nortto Techmedia
- 4.. Using Visual Basic 6 QUE, Special Edition