GUJARAT TECHNOLOGICAL UNIVERSITY

B. E. SEMESTER: V

Computer Engg./Information Technology/Computer Science & Engg.

Subject Name: **Visual Basic Applications and Programming (Institute Elective-II)**

Subject Code: **150706**

Teaching Scheme				Evaluation Scheme		
Theory	**Tutorial**	**Practical**	**Total**	**University Exam (Theory) (E)**	**Mid Sem Exam (Theory) (M)**	**Internal Assessment (I)**
4	0	2	6	70	30	50

Sr. No.	Course content
1.	**Advantages of VBA:** • An easy-to-use and versatile language • Integrated with off-the-shelf products • Minimizes development time and costs
2.	**Macros: The First Step:** • Recording and executing macros • Limitations • Enhancing with VBA code
3.	**The Code Design and Debugging Tools:** • Project Explorer • Help system • Code Window • IntelliSense • Properties Window • Object Browser • Block commenting and uncomment • Code stepping • Immediate Window • Breakpoints
4.	**Event-Driven Programming:** • The role of events in Windows • How events are triggered • Responding to events through event procedures

5.	**Putting Objects to Work:** • Properties • Methods • Events • Collections • Using With...End With
6.	**Storing Data In Variables:** • How and when to declare variables • Selecting data types • Fixed and dynamic arrays • Constants • The scope and lifetime of variables
7.	**Conditional Branching:** • If...Then...Else • Select...Case
8.	**Looping Through Code:** • Do...Loop, While and Until • For...Next and For Each...Next
9.	**Building Procedures:** • Creating Sub and Function procedures • Calling procedures • Passing arguments to procedures
10.	**Understanding Object Model Structures:** • Exploring the hierarchy using the Object Browser and Help system • Referencing specific objects
11.	**Writing Application-Specific Procedures:** • Key objects within Excel, Word and Outlook • Creating templates and add-ins
12.	**Exploiting yhe Power of Automation:** • Controlling one Office application while working in another application • Accessing data in databases using ActiveX Data Objects
13.	**Using Intrinsic Dialogs:** • Communicating with the user through the message box • Gathering user information with the input box • Utilizing the File Dialog object and Dialogs collections
14.	**Creating Customized Dialogs with User Form Objects:** • Command buttons • List and Combo boxes • Option buttons • Check boxes • Labels • Text boxes • Frames • Adding more functionality with advanced ActiveX controls

15.	**Modifying menus and toolbars** • Simplifying user interaction with the CommandBar object • Adding and removing CommandBarControl objects
16.	**Handling Runtime Errors:** • The On Error GoTo structure • Classifying errors with the Err object • Continuing execution with Resume, Resume Next or Resume label
17.	**Implementing Security:** • The dangers of macro viruses • Macro security levels in Office • Applying digital signatures to macros • Password protecting your VBA code

Reference Books:

1. VBA Developer's Handbook, 2nd Edition, 2001, Authors: Ken Getz Ken Getz, Mike Gilbert, Publication: Wiley Publication, Sybex.
2. Excel VBA Macro Programming, 2004, Author: Richard Shepherd, Publication: Mc Graw Hill.
3. Mastering VBA, 2nd Edition, 2005, Author: Guy Hart-Davis, Publication: Wiley Publication, Sybex.
4. Access VBA Programming, Authors: Charles Brown, Ron Petrusha Publication: Mc Graw Hill.
5. Mastering VBA for Microsoft Office 2007, 2nd Edition, Author: Richard Mansfield, Publication: Wiley Publication, Sybex.