

GUJARAT TECHNOLOGICAL UNIVERSITY

B. E. SEMESTER: V

COMPUTER SCIENCE & ENGINEERING/INFORMATION TECHNOLOGY/COMPUTER ENGINEERING

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)	Practical (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 the 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 FileDialog object and Dialogs collections
14.	Creating Customized Dialogs with UserForm 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 Go To 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 Petruscha Publication: Mc Graw Hill.
5. Mastering VBA for Microsoft Office 2007, 2nd Edition , Author, Richard Mansfield, Publication: Wiley Publication, Sybex.