

GUJARAT TECHNOLOGICAL UNIVERSITY

B. E. SEMESTER: V

Computer Engg./Information Technology/

Computer Science & Engg./

Information & Communication Technology

Subject Name: **Visual Basic Application 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: <ul style="list-style-type: none">• An easy-to-use and versatile language• Integrated with off-the-shelf products• Minimizes development time and costs
2.	Macros: The First Step: <ul style="list-style-type: none">• Recording and executing macros• Limitations• Enhancing with VBA code
3.	The Code Design and Debugging Tools: <ul style="list-style-type: none">• Project Explorer• Help system• Code Window• IntelliSense• Properties Window• Object Browser• Block commenting and uncomment• Code stepping• Immediate Window• Breakpoints
4.	Event-Driven Programming: <ul style="list-style-type: none">• The role of events in Windows• How events are triggered• Responding to events through event procedures

5.	Putting Objects to Work: <ul style="list-style-type: none"> • Properties • Methods • Events • Collections • Using With...End With
6.	Storing Data In Variables: <ul style="list-style-type: none"> • How and when to declare variables • Selecting data types • Fixed and dynamic arrays • Constants • The scope and lifetime of variables
7.	Conditional Branching: <ul style="list-style-type: none"> • If...Then...Else • Select...Case
8.	Looping Through Code: <ul style="list-style-type: none"> • Do...Loop, While and Until • For...Next and For Each...Next
9.	Building Procedures: <ul style="list-style-type: none"> • Creating Sub and Function procedures • Calling procedures • Passing arguments to procedures
10.	Understanding Object Model Structures: <ul style="list-style-type: none"> • Exploring the hierarchy using the Object Browser and Help system • Referencing specific objects
11.	Writing Application-Specific Procedures: <ul style="list-style-type: none"> • Key objects within Excel, Word and Outlook • Creating templates and add-ins
12.	Exploiting the Power of Automation: <ul style="list-style-type: none"> • Controlling one Office application while working in another application • Accessing data in databases using ActiveX Data Objects
13.	Using Intrinsic Dialogs: <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • 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 <ul style="list-style-type: none"> • Simplifying user interaction with the CommandBar object • Adding and removing CommandBarControl objects
16.	Handling Runtime Errors: <ul style="list-style-type: none"> • The On Error GoTo structure • Classifying errors with the Err object • Continuing execution with Resume, Resume Next or Resume label
17.	Implementing Security: <ul style="list-style-type: none"> • 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.