

GUJARAT TECHNOLOGICAL UNIVERSITY
B. E. SEMESTER: V
INFORMATION TECHNOLOGY/COMPUTER
SCIENCE & ENGINEERING/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 <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.	Modifying menus and toolbars <ul style="list-style-type: none"> • Simplifying user interaction with the CommandBar object • Adding and removing CommandBarControl objects
17.	Handling runtime errors <ul style="list-style-type: none"> • The On Error Go To structure • Classifying errors with the Error object • Continuing execution with Resume, Resume Next or Resume label
18.	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 , 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.