**Duty 3: Program in Visual Basic**

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| **S. No.** | **TASK** | **RELATED KNOWLEDGE** | **TIME (in hours)** | |
| **Theory** | **PRAC.** |
| 1. | Familiarize Visual Basic | * Design, editing features, tool box | ½ | 2 |
| 2. | Perform VB editor | * Adding components to project, Naming the components, Overview of the entire project, The quality of components/forms | ½ | 2 |
| 3. | Create interface | * Properties windows, Rapid Application Development (RAD), Properties of a text box, Tool tips to assist the user, Application Running and testing, Saving the application, Tab Index properties | 1 | 3 |
| 4. | Write first code | * The code window, Basic programming steps, Assigning the text to a Text Box, Command Dialog components | ½ | 2 |
| 5. | Flesh out first application | * The testing processes, Auto Syntax Check / Auto Members features, Saving and printing text, Importing and exporting from windows clipboard, Launching separate application from within VB | 1 | 3 |
| 6. | Explore option buttons / Check boxes / simple dialogs | * Use of more than one form, The effect of a cancel button on the programming, hiding and showing commands with the forms | 1 | 3 |
| 7. | Work with text boxes | * The default text box, text box's properties, The Properties Window | ½ | 2 |
| 8. | Add/ format labels |  | ½ | 2 |
| 9. | Work with list and combo boxes |  | ½ | 2 |
| 10. | Work with graphics | * Difference between Image and Picture Box controls, Displaying graphics, Graphics at run time, Animation features, Adding graphics to other controls (Command Buttons etc.), Line and Shape controls | 1 | 3 |
| 11. | Develop adding menus | * The basic menus, VB application wizard, Attaching program to menu item, Menu Editor, Context menu, Parameters / constants | 1 | 3 |
| 12. | Inform user with dialog boxes | * The msg box features, Arguments, Buttons and Icons * Input box | ½ | 2 |
| 13. | Familiarize with common dialog components | * Five common dialogs, File access to the user, Colors/ Font properties | ½ | 2 |
| 14. | Describe procedures/ parameters / functions / argument-passing modes / single stepping / redundancies / data types |  | 1 | 4 |
| 15. | Explore variables / scope | * Text and numeric data, Naming and manipulating variables, Working with scope | ½ | 2 |
| 16. | Explore the VB's built in functions | * Literals, constants, expressions, strings, numeric functions, data conversion and querying, Numbering format, Financial functions, Date and time functions | 1 | 6 |
| 17. | Explore various operators | * Arithmetic, Comparison and Logical operators | ½ | 4 |
| 18. | Work in arrays / Looping/ Branching | * Creation and manipulation of arrays, Simple loops; *For Next, Do…Loops, While…Wend loops*, Decision loops; *For…Next, Else, Select… Case, Is and To* | 1 | 6 |
| 19 | Handle error disposal | * Error handling with *On Error* statement * Error object | ½ | 2 |
| 20 | Access files | * Finding existence of files * Handling files. Open, write, read, and close files | 1 | 4 |
| 21. | Apply timers / controls arrays | * Timer controls, Gang-programming, reducing redundancies | ½ | 3 |
| 22. | Track down / fix the bugs | * Typos and bad punctuation, dealing with run time errors, locating logic bugs and debugging tools | 1 | 6 |
| 23. | Design an application | * Adding features, User interface, Single Document Interface (SDI), Multiple Document Interface (MDI), Records, Fields, Tables and Indexes | 1 | 6 |
| 24. | Build user interface | * Primary components, sizing and positioning the components, Shortcut keys, Some basic code, TabIndex | 1 | 4 |
| 25 | Explore Libraries | * MSDN library for Visual Basic | ½ | 2 |
| 26. | Execute the windows application program | * Deploying the project, Package and Deployment wizard | ½ | 2 |
| 27. | Project Work |  |  | 10 |
| **Sub-Total** | | | **12** | **92** |