VISUAL BASIC PROGRAMMER (VBPR)

Core Qualification File Syllabus

Learning Outcome *Will be able to*	**Theory**	**Hrs**	**Practical**	**Hrs**
1) learn features of Visual Basic and concept of programming. 2) Get familiar with VB Interfaces, viz. Menus, Toolbar, Toolbox, different VB windows and their 3) Work with VB controls to place them to VB forms and make executable files.	**Unit 1: Introduction to Visual Basic** **1.1 Introduction** Features of Visual Basic, Concept of Visual Basic Screen, VB menus, VB Windows, Definition of Programming, Knowledge of Visual Basic Programming. **1.2 Getting Familiar with VB User Interface** Opening VB Screen, Pull Down Menus and their Uses, Toolbar, Toolbox, project Explorer, Properties Window, Form Layout Window, Form immediate Window, Opening and Closing Window, Quitting VB 1.3 **Controls and Toolbox** Standard Window Controls and their Uses, Working with Controls, Label, Textbox, Command Button, Frame, Checkbox, Option Button, List-box, Combo-box, Picture-box, Timer Control, Shapes, Basic Properties of Controls, Placing Controls to the Forms, Resizing Controls and Enabling different Controls, Making Executable Files	**5 + 4 + 8= 17**	**Visual Basic and Its Application lab** i)**Study of VB environment with following details:** Textbox, Label, Combo, List , Check box and Option Buttons Form and their Types ii)**Design of Forms to perform mathematical operations :** Addition, Subtraction, Multiplication and Divisions using Text box, Labels, Command buttons iii)**Design of Forms to perform following operations :** Use of Date, Time and Mathematical functions using Text box, Labels, Combo box, Command buttons iv) **Design of Forms to perform following Programs** : To find the simple interest To find the greatest numbers among three numbers To find the greatest and smallest among a list of numbers To calculate the sum of N numbers To check whether a given number is even or odd To find the factorial of a given integer To find the sum of digits of a given integer To check whether a given integer is prime or not To find the HCF of two	**6+10+6+20+15+15= 72**
1) Learn concept of programming by understanding variables, operators, expressions, statements etc. 2) learn to get concept of algorithm and flowchart and write simple programs by using different types of control and loop statements. 3) learn concept of	**Unit 2: Programming Fundamentals** **2.1 Introduction to Programming** Concept of Programming, Understanding variables, operators, expression, statements etc. **2.2 Steps of Problem Solving** Definition of Algorithm, Flowchart with examples, Variables, Constants , Keywords, Operators: Arithmetic, Assignment, Relational and Logical Operators, Controls Statements: Branching : If, If-then-else, Switch Statements Looping For-Next While Do-while **2.3 One Dimensional Array** Definition of Array , Concept of one Dimensional Array with examples	**5 + 15+ 10 = 30**		

arrays and write programs using one dimensional arrays.			given integers To find the LCM of two given integers v) To find the sum of series 1+2+3+4+ . . . . +N 1+3+5 + ... +N 2+4+ 6 + ... +N 5+10+15 + . . . +N 1+ 1/2 + 1/3 + ... +1/N vi) Design interface to perform following with ADO data control Creating Tables Inserting Records into the Table Selecting data From Tables Deleting, Updating and Modifying Tables Executing Simple Queries	
1) learn different operators of relational algebra. 2) learn to create different database contros and their uses 3) Learn to connect data controls to a database 4) learn to create and update tables & manipulate (insert, delete, update data) data using table with simple queries.	**Unit 3: Using Database Controls and Database Connectivity** **3.1 Introduction to Database Controls and Connectivity** Concept of database, table and database control. 3.2 Database Controls DBgrid, DBcombo, Textbox, Combo, List 3.3 Connecting the data controls to a data source Selecting tables from the database , Connecting ADO data controls to a data source 3.4 Working with Tables Creating Tables, Inserting Records into the Table, Selecting data From Tables, Deleting, Updating and Modifying Tables , Executing Simple Queries.	**5 + 5+ 5+ 10= 25**		

Learning Outcome *Will be able to*	**Project : Design following Projects using Access/ SQL / VB**	Hours
1) get experiences to develop a project from by using VB forms with the help of programs in a given time frame, with given conditions and constraints and safety rules. 2) get experience to work in a team with distributed responsibility among all with proper team discussion. 3) carry out a job with effective communication with other team members. 4) prepare project report and project presentation.	I) Design Calculator with facility of mathematical operations , factorial, power functions etc.	**24 (6 hours each)**
	II) Design Payroll System of a School (With the facilities of Insertion of Employees, Deletion of Employees, Salary according to the Modified pay scale)	
	III) Design Library Management System(Making Catalogue, Searching books, Issuing books, Calculating fines (if happens)	
	IV)Design Design Hospital Management System(Doctor's list, Availability of Doctors with date, Maintaining accounts of Outdoor system)	

OUTCOMES

Outcomes to be assessed / NOSs to be assessed	Assessment criteria for the outcome
1.1 Explain the basic concepts of Visual Basic such as Visual Basic Screen, Visual Basic menus etc	1.1.1 Trainees will be able to identify various network media needed to make successful LAN and WAN connections and their distinct roles. 1.1.2 Trainees will be able to explain the basic concepts of Client, Server, Workstation, Hubs and their applications. 1.1.3 Trainees will be able to explain different types of Network architectures: Peer-to-Peer, Client-Server and Distributed. 1.1.4 Trainees will be able to explain basic concept of Transmission Types : Simplex, Half duplex and Full duplex 1.1.5 Trainees will be able to illustrate features of Visual Basic, Concept of Visual Basic Screen, VB menus, VB Windows,
1.2 Develop familiarity with VB User interface through VB screens, toolbars, form layouts etc.	1.2.1 Trainees will be able to open VB Screen and pull down menus and state their uses 1.2.2 Trainees will be able to Work with Toolbar, Toolbox, Project Explorer, Form Layout and Form Immediate Window 1.2.3 Trainees will be able to open and close Window
1.3 Demonstrate the use of Controls & toolboxes and make executable files for doing a job	1.3.1 Trainees will be able to demonstrate the concept of Window controls and their uses 1.3.2 Trainees will be able to work with Controls, Label, Textbox, Command button, Option button, Checkbox, List-box, Combo-box, Picture-box, Timer Control etc. 1.3.3 Trainees will be able to explain the basic properties of Controls and Place Controls to the Forms 1.3.4 Trainees will be able to resize and Enable different controls with the concept of making executable files for doing job.
2.1 Make Flowchart for problem solving	2.1.1 Trainees will be able to Analyze a given problem for writing the program 2.1.2. Trainees will be able to draw flow chart diagram for solving a given problem
2.2 Use Operators, Control Statement, Loop Statements	2.2.1 Trainees will be able to explain use of different types of operators and their uses 2.2.2 Trainees will be able to use different types of control statements viz. If, If-then-Else, Switch statements 2.2.3 Trainees will be able to use different types of Loop statements viz. For-Next, While , and Do-While
2.3 Use One Dimensional Array	2.3.1 Trainees will be able to explain the concept of array 2.3.2 Trainees will be able to work with one Dimensional Array for problem solving
3.1 Work with Database Controls	3.1.1 Trainees will be able to explain the concept of database and controls 3.1.2 Trainees will be able to work with Database Controls viz. DB grid, DB combo, Textbox, List etc.
3.2 Illustrate ways of Connecting Data Controls to Data Source	3.2.1 Trainees will be able to connect Data Controls to Data Source 3.2.2 Trainees will be able to select tables from database 3.2.3 Trainees will be able to Work with connecting ADO Data Controls to a data source.

3.3 Work with Tables and data	3.3.1 Trainees will be able to Create tables 3.3.2 Trainees will be able to work with inserting data into the table 3.3.3 Trainees will be able to modify tables 3.3.4 Trainees will be able to execute simple queries
4.1 Demonstrate VB environment through design of various forms, interfaces & tables	4.1.1 Trainees will be able to explain VB environment with following details: Textbox, Label, Combo, List , Check box and Option Buttons Form and their Types„ 4.1.2 Trainees will be able to design of Forms to perform mathematical operations :Addition, Subtraction, Multiplication and Divisions using Text box, Labels, Command buttons „ 4.1.3 Trainees will be able to design Forms to perform following operations : Use of Date, Time and Mathematical functions using Text box, Labels, Combo box, Command buttons „ 4.1.4 Trainees will be able to design Forms to perform following Programs :To find the simple interest, To find the greatest numbers among three numbers, To find the greatest and smallest among a list of numbers, To calculate the sum of N numbers, To check whether a given number is even or odd, To find the factorial of a given integer , To find the sum of digits of a given integer, To check whether a given integer is prime or not, To find the HCF of two given integers, To find the LCM of two given integers, To find the sum of series „1+2+3+4+ . . . . +N „ 1+3+5 + ... +N „ 2+4+ 6 + ... +N „ 5+10+15 + . . . +N „ 1+ 1/2 + 1/3 + ... +1/N „ 4.1.5 Trainees will be able to design interface to perform following with ADO data control Creating Tables, Inserting Records into the Table, Selecting data From Tables, Deleting, Updating and Modifying Tables, Executing Simple Queries
5.1. Use VB to design and develop certain Projects	5.1.1. Trainees will be able to design Calculator with facility of mathematical operations, factorial, power functions etc. 5.1.2. Trainees will be able to design Payroll System of a School (With the facilities of Insertion of Employees, Deletion of Employees, Salary according to the Modified pay scale) 5.1.3. Trainees will be able to design Library Management System(Making Catalogue, Searching books, Issuing books, Calculating fines (if happens) 5.1.4. Trainees will be able to design Hospital Management System (Doctor's list, Availability of Doctors with date, Maintaining accounts of Outdoor system)