**Jyotiba Phule Govt. College, Radaur**

**Lesson Plan**

**Feb to May 2022-2023**

**Name of the Assistant Professor – Dr. Rama Swami**

**Subject : Computer Science**

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| **Month** | **BCA 6th Sem** | **BCA 6Th Sem** | **B.Com CAV 1st Sem** | **B.Com CAV 4th Sem** |
| Feb | Basic Principles of Object Oriented Programming, Introduction to Java, History and Features of Java, Java Virtual Machine (JVM), Java’s Magic Bytecode; The Java Runtime Environment; Basic Language Elements: Lexical Tokens, Identifiers, Keywords, Literals, Comments, Primitive Data types, Operators, Assignments; Input/output in Java: Basics, I/O Classes, Reading Console Input, Control Structures in Java: Decision and Loop Control Statements | Collections: Adding, Removing, Counting, Returning Items in a Collection, Processing a Collection; Working with Forms: Form Properties, Creating, Adding, Removing Forms in Project, Adding Multiple Forms, Managing Forms at Run Time, Hiding & Showing Forms, Load & Unload Statements, Drag and Drop Operation, Activate & Deactivate events, Form-load event, Example using Forms, Programs in VB using Forms | ProgramminginC:characterset,identifiersandkeywords,constantsandvariables,datatypes, expressions and statements. | IntroductiontoJava-featuresofJava-objectorientedconcepts-datatypes–variablesarrays-operators-controlstatements-inputandoutput-scannerandsystem –class print(), printIn(),printf()methods;Class-objects-constructors-overloadingmethod-accesscontrolstaticandfixedmethods-innerclasses-stringclass-inheritance. |
| Mar | Class and Object in Java: Defining Class in Java, Creating Objects of a Class, Defining Methods, Argument Passing Mechanism, Using Class and Objects, Constructors, Nested Class, Inner Class, Abstract Class, Dealing with Static Members; Array & String in Java: Defining an Array, Initializing & Accessing Array, Multi –Dimensional Array, Defining String, Operation on Array and String, Creating Strings using String Class, Creating Strings using StringBuffer Class,; Polymorphism in Java: Basic Concept, Types, Overriding vs. Overloading, Implementation U | Working with Menu: Menu Designing in VB, Adding a Menu to a Form, Modifying and Deleting Menu Items, Adding Access Characters, Adding Shortcut Keys, Manipulating Menus using Common Dialog Box, Attaching Code to Events, Creating Submenus, Dynamic Menu Appearance Advanced Controls in VB: Scroll Bar, Slider Control, Tree View, List View, Rich Text Box Control, Toolbar, Status Bar, Progress Bar, Cool bar, Image List Program Development in VB using Menus and Advance Controls | Arithmetic, logical, relational and bitwise operators and their hierarchy, Assignment and conditional operators. | GUIcomponents-commonGUIeventtypesandlistenerinterfaces-Joptionpane–Jlabel– JtextField–Jbutton–JcheckBox-JTextarea–JcomboBox–Jlist–Jpannel-MouseEvent Handling–Adapter Classes – Key Event Handling. |
| April | Extending Classes and Inheritance in Java: Benefits of Inheritance, Types of Inheritance in Java, Access Attributes, Inheriting Data Members and Methods, Role of Constructors in Inheritance, Use of “super”; Packages & Interfaces: Basic Concepts of Package and Interface, Organizing Classes and Interfaces in Packages, Defining Package, Adding Classes from a Package to Your Program, CLASSPATH Setting for Packages, Import Package, Naming Convention For Packages , Access Protection in Packages, Standard Packages  Exception Handling in Java: The Idea behind Exception, Types of Exception, Use of try, catch, finally, throw, throws in Exception Handling, In-built and User Defined Exceptions, Checked and Un-Checked Exceptions, Catching more than one Exception; Applet in Java: Applet Basics, Applet Architecture, Applet Life Cycle, Applet Tag, Parameters to Applet, Embedding Applets in Web page, Creating Simple Applets; GUI Programming: Designing Graphical User Interfaces in Java, Components and Containers, Using Containers, Layout Managers, AWT Components, AWT Classes, AWT Controls, | File Handling & File Controls: Sequential & Random files, Opening and Closing Data Files, Viewing the Data in a File, Performing Operations on a File, Creating a Sequential Data File, Writing Data to a Sequential File, Reading the Data in a Sequential File, Finding the End of a Data File, Locating a File, Reading and Writing a Random File (get, put, LOF, seek). Working with Graphics: Using Paint, Line, Circle, Manipulating Graphics Program Development in VB using Files and Graphics  Accessing Databases: Data Controls, Data-Bound Controls, DAO, RDO, ADO, Creating the Database, Setting Properties, Applying Operations on Database, Viewing the Database, Updating the Database (adding, deleting records) Program Development in VB using Database and Advance Controls | input/outputstatements,controlstatements-if-else,switchbreak,continueandloops  Arrays,functions,pointer,structureandunions,datafiles,developingsimpleprogrammes. | LayoutManagers–Flowlayout,Borderlayout,Gridlayout-GraphicsandJava2D-Graphics contextsandGraphicsobjects-Colorcontrol-FontControl–DrawingLines,Rectanglesand ovals-JSlider-Using menus with frames |
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