

## Lecture Plan – Academic Year 2019-20

Semester: IV

Course: SYBSc-IT

Class: Subject: Core Java

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Unit No.	Topic	Plan	Teaching Methodology with Time Frame	Learning Outcome
1.	<b><u>Introduction of JAVA programming language and it's Data types</u></b>	<p><b>Learning Objective</b> To introduce the JAVA programming Language with it's History, architecture and its components, Java Class File, Java Runtime Environment, The Java Virtual Machine, JVM Components, The Java API, java platform, java development kit, Lambda Expressions, Methods References, Type Annotations, Method Parameter Reflection, setting the path environment variable, Java Compiler And Interpreter, java programs, java applications, main(), public, static, void, string[] args, statements, white space, case sensitivity, identifiers, keywords, comments, braces and code blocks, variables, variable name and it's datatypes.</p>	<p><b>Contact Sessions</b> 12 Lectures</p> <p><b>Interactive modes</b> With the help of Projector &amp; white board</p> <p><b>Date</b> <b>25/11/2019 to 14/12/2019</b></p>	At the end of this unit student will get basic knowledge about JAVA programming and they can simple JAVA program
2.	<b><u>Control Flow Statements Iterations Classes</u></b>	<p>To explain basic flow control of Java programming like The If...Else If...Else Statement, The Switch...Case Statement, The While Loop, The Do ... While Loop, The For Loop, The Foreach Loop, Labeled Statements, The Break And Continue Statements, The Return Statement. Types of Classes, Scope Rules, Access Modifier, Instantiating Objects From A Class, Initializing The Class Object And Its Attributes, Class Methods, Accessing A Method, Method Returning A Value, Method's Arguments, Method Overloading, Variable Arguments [Varargs], Constructors, this Instance, super Instance, Characteristics Of Members Of A Class, constants, this instance, static fields of a class, static methods of a class, garbage collection.</p>	<p><b>Contact Sessions</b> 12 Lectures</p> <p><b>Interactive modes</b> With the help of Projector &amp; white board</p> <p><b>Date</b> <b>02/01/2020 to 15/01/2020</b></p>	By the end of this unit, students will be able to run Java program using different flow controls of programming languages.
3.	<b><u>Inheritance Packages</u></b>	<p>Derived Class Objects, Inheritance and Access Control, Default Base Class Constructors, this and super keywords. Abstract Classes And Interfaces, Abstract Classes, Abstract Methods, Interfaces, What Is An Interface? How Is An Interface Different From An Abstract Class?, Multiple Inheritance, Default Implementation, Adding New Functionality, Method Implementation, Classes V/s Interfaces, Defining An Interface, Implementing Interfaces. Creating Packages, Default Package, Importing Packages, Using A Package.</p>	<p><b>Contact Sessions</b> 12 Lectures</p> <p><b>Interactive modes</b> With the help of Projector &amp; white board</p> <p><b>Date</b> <b>16/01/2020 to 27/01/2020</b></p>	By the end of this unit students will learn to create classes and various concept & use of classes in Java

4.	<u>Enumerations,</u> <u>Arrays</u> <u>Multithreading:</u> <u>Exceptions:</u> <u>Byte streams:</u>	To introduce Arrays in Java and it's types like Two Dimensional Arrays, Multi-Dimensional Arrays, Vectors, Adding Elements To A Vector, Accessing Vector Elements, Searching For Elements In A Vector, Working With The Size of The Vector. The thread control methods, thread life cycle, the main thread, creating a thread, extending the thread class. Catching Java Exceptions, Catching Run-Time Exceptions, Handling Multiple Exceptions, The finally Clause, The throws Clause. Reading console input, writing console output, reading file, writing file, writing binary data, reading binary data, getting started with character streams, writing file, reading file	<b>Contact Sessions</b>  12 Lectures  <b>Interactive modes</b>  With the help of Projector & white board  <b>Date</b> <b>28/01/2020 to 07/02/2020</b>	By the end of this unit students will get knowledge of array and its uses and multithreading concept in Java.
5.	<u>Event Handling</u> <u>Abstract</u> <u>Window Toolkit</u> <u>Layouts:</u>	To introduce error handling, Delegation Event Model, Events, Event classes, Event listener interfaces, Using delegation event model, adapter classes and inner classes in Java programming. Also to introduce the concept of Window Fundamentals, Component, Container, Panel, Window, Frame, Canvas. Components – Labels, Buttons, Check Boxes, Radio Buttons, Choice Menus, Text Fields, Text, Scrolling List, Scrollbars, Panels, Frames. Flow Layout, Grid Layout, Border Layout, Card Layout.	<b>Contact Sessions</b>  12 Lectures  <b>Interactive modes</b>  With the help of Projector & white board  <b>Date</b> <b>08/02/2020 to 21/02/2020</b>	By the end of this unit students will able to handle error in Java programming And students will get aware of different layouts of Java.
6.	<b>All unit</b>	Revision of all unit including practical	<b>Contact Sessions</b> 8 Lectures <b>Interactive modes</b> BB and Computer <b>Date</b> (22/02/2020 12/03/2020)	By the end of this course, students will be able to run Java programs