

Daffodil Institute of IT

Department of Computer Technology

Semester Plan

Course: Programming in Java

Course Code: 66651

Semester: 5th

OBJECTIVES

- To develop knowledge and skill on programming Basics in Java Language.
- To develop knowledge and skill to create, compile, debug & execute a java program

SHORT DESCRIPTION

- ❖ Basics of Java Language, Data Structures in Java, Object Oriented Concepts in Java
- ❖ Build and Packaging Tools, Threading, Generics, Lambda, Collections, I/O operations, networking in Java, Database communication in Java, RMI package, web server in Java, servlet;

Course Teacher:

Santosh Kumar Sushil

Department of Computer Technology

Daffodil Institute of IT-Chattogram

Mo: 01814328156

Email:santosh.kumar@diit.info

SL No	Subject Code	Name of the Subject	T	P	C	Marks				Total
						Theory		Practical		
						Cont. Access	Final Exam	Cont. Access	Final Exam	
1	66651	Programming in Java	2	3	3	40	60	25	25	150

Course Plan:

Class	Chapter	Detail Description
01	01	1. Understand the concept of object oriented programming (OOP) 1.1 Describe the software evolution. 1.2 Mention the drawbacks of traditional programming. 1.3 State the terms used in OOP-objects, classes, data abstraction, encapsulation, inheritance, Polymorphism, message passing, and dynamic binding
02		1. Understand the concept of object oriented programming (OOP) 1.4 Mention the list of OOP languages. 1.5 State the benefits of OOP. 1.6 Mention the application of OOP
03	02	2. Understand the features of Java 2.1 Describe the history of Java. 2.2 Describe Java development environment steps. 2.3 Mention the applications of Java.
04		2. Understand the features of Java 2.4 Describe programming style and convention of Java.

		<p>2.5 Describe white space, identifiers, literals, comments, separators and keywords of Java.</p> <p>2.6 Write the structure of Java Program</p>
05	03	<p>3. Understand the use of Data types, Variables, Operators, Control Statements and Array in Java</p> <p>3.1 State the data types (primitives, non-primitive and literals) of Java programs.</p> <p>3.2 Describe the declaration and dynamic initialization of variables in java.</p> <p>3.3 State the process of accepting input from a user and option panes</p>
06		<p>3. Understand the use of Data types, Variables, Operators, Control Statements and Array in Java</p> <p>3.4 Describe the control flow statements in Java.</p> <p>3.5 Describe various types of operators used in Java.</p> <p>3.6 Describe Array dimensions, declarations and initializations.</p> <p>3.7 Write Java programs using operators, control statements and Arrays.</p>
07	04	<p>4. Understand Classes, Objects, Methods, and Constructors in Java</p> <p>4.1 Describe the declaration (syntax) of class and object in Java.</p> <p>4.2 Define Method with syntax.</p> <p>4.3 State the procedure of adding Method to class.</p> <p>4.4 Describe the advantages of Method.</p>
08		<p>4. Understand Classes, Objects, Methods, and Constructors in Java</p> <p>4.5 Describe the overloading Method in java.</p> <p>4.6 Describe the constructor and overloading constructor in java.</p> <p>4.7 Explain the instance variable hiding, and garbage collection.</p> <p>4.8 Write java programs relating to class, object, method and constructor.</p>
09	05	<p>5. Understand the inheritance and polymorphism</p> <p>5.1 Define super class and sub class.</p> <p>5.2 Describe the multilevel hierarchy of inheritance.</p> <p>5.3 Describe the overridden methods in java.</p> <p>5.4 Describe dynamic run-time polymorphism in java.</p>
10		<p>5. Understand the inheritance and polymorphism</p> <p>5.5 Describe the abstract and object classes in java.</p> <p>5.6 Mention the uses of <i>final</i> and <i>super</i> keyword.</p> <p>5.7 Write java programs relating to inheritance and polymorphism.</p>
11	06	<p>6. Understand Packages and Interfaces</p> <p>6.1 Define the packages with syntax</p> <p>6.2 Describe the function of packages</p> <p>6.3 Mention the different levels of class member access.</p> <p>6.4 Define the interfaces with syntax.</p>
12		<p>6. Understand Packages and Interfaces</p> <p>6.5 Describe the implementation of interfaces.</p> <p>6.6 Explain the nested interfaces.</p> <p>6.7 Describe the variables in interfaces.</p> <p>6.8 Write java programs that related to package and interface.</p>
13	07	<p>7. Understand multithreaded programming</p> <p>7.1 Define multithreaded programming with syntax.</p> <p>7.2 Mention the different between processed-based and thread-based multitasking</p>
14		<p>7. Understand multithreaded programming</p> <p>7.3 Mention the several methods of thread class with state diagram.</p> <p>7.4 Describe the way to create the several types of thread.</p> <p>7.5 Describe the minimum, default and maximum thread priorities.</p>

15		<p>7. Understand multithreaded programming</p> <p>7.6 Describe the synchronization inter-thread communication method.</p> <p>7.7 Describe the suspending, resuming and stopping threads.</p> <p>7.8 Write java programs using multithreaded programming method.</p>
16	08	<p>8. Understanding I/O Operations</p> <p>8.1 Describe the Byte stream and Character Stream Classes.</p> <p>8.2 Describe the Reading Console Input and Writing Console Output.</p> <p>8.3 Mention the constructors for creating File objects.</p>
17		<p>8. Understanding I/O Operations</p> <p>8.4 Describe the Reading and Writing files in java.</p> <p>8.5 Describe flowchart of a complete java streams.</p> <p>8.6 Describe the Random Access File Streams.</p> <p>8.7 Write java programs relating I/O operation.</p>
18	09	<p>9. Database Connectivity: JDBC</p> <p>9.1 Define Java Database Client/Server methodology.</p> <p>9.2 Describe Two-Tier and Three-Tier Database Design.</p> <p>9.3 Describe JDBC API(API Components, Applications and Applets)</p>
19		<p>9. Database Connectivity: JDBC</p> <p>9.4 Mention security considerations of JDBC.</p> <p>9.5 Describe JDBC Drivers, JDBC-ODBC Bridge and Current JDBC Drivers.</p> <p>9.6 Write java programs relating to JDBC.</p>
20	10	<p>10. Client-Server Networking in Java.</p> <p>10.1 Define network protocol</p> <p>10.2 Describe TCP and UDP.</p>
21		<p>10. Client-Server Networking in Java.</p> <p>10.3 Describe Socket Programming and URL Processing.</p> <p>10.4 Describe steps occur when establishing a TCP connection between two computers using sockets.</p> <p>10.5 Describe Server Socket Class Methods (java.net.ServerSocket)</p>