SCHOOL OF ENGINEERING AND APPLIED SCIENCES

Department of Computer Science Engineering

COURSE HANDSOUT

For

Object Oriented Programming Using Java

Faculty Name : Dr. Rishav Singh, Dr. Tapas Badal,
Dr. Tanmay Bhowmik,
Dr. Mayank Swarnkar
Dr. Hiren

R Course Type : Foundation

Semester and Year: 2nd Semester and 1st Year

L-T-P : 3-1-4

Credits 6

Department : Computer Science Engineering

Course Level : UG

Bennett University
Greater Noida, Uttar Pradesh

Bennett University

Course Details:

Course Name:	**Object oriented Programming Using Java**	**Course Code:**			**ECSE102L**
Department:	**Computer Science Engineering**	**Type:**			**Foundation**
L-T-P Structure	**3-1-4**	**Credits**	**6**	**Pre-requisite:**	**NA**
Brief Description	This course will help the students to design object-oriented application using java.				
Course Objectives	This course will help the students to learn fundamentals of object oriented programming using Java. Moreover, this course will help them to build dynamic web content using servlets.				
Course Outcome	**At the end of the course, the students will be able to:** 1. Make use of different programming structures in Java. 2. Apply the concepts of object oriented programming: encapsulation, abstraction, inheritance and polymorphism. 3. Build dynamic web content using servlets.				
Course Contents:	**Topics**				**No. of Hours**
	Overview of course, Create executable Java applications with a main method, run a Java program from the command line, including console output, Platform independence, create if and if/else and ternary constructs, Use a switch statement				3
	Create and use while loops, for loop, Create and use do/while loops, Nested loops, Define the scope of variables, object orientation, encapsulation, Abstraction etc				3
	Know how to read or write to object fields, Explain an Object's Lifecycle (creation, "dereference by reassignment" and garbage collection), Wrapper classes such as Boolean, Double, and Integer, Use Java operators; including parentheses, String operations				3

	Declare, instantiate, initialize and use a one-dimensional array, multi-dimensional array, Declare and use an ArrayList, Vectors collection Class	3
	Create methods with arguments and return values, Apply the static keyword to methods and fields, Create and overload constructors; including impact on default, constructors	3
	Apply access modifiers, Apply encapsulation principles to a class	3
	Constructor, destructor, Describe inheritance and its benefits	3
	Develop code that demonstrates the use of polymorphism, use super and this to access objects and constructors, use abstract classes and interfaces	3
	Differentiate among checked exceptions, unchecked exceptions, and Errors, create a try-catch block and determine how exceptions alter normal program flow	3
	Describe the advantages of Exception handling, create and invoke a method that throws an exception	3
	Servlets: Introduction Servlet API Overview	3
	Writing and running Simple Servlet, Servlet Life cycle	3
	Generic Servlet, HTTPServlet, ServletConfig, ServletContest, Writing Servlet to handle Get and Post methods.	3
	JDBC: Objects (Statement, Prepared Statement and Callable Statement), Types of result set Inserting and updating, records	3
Lab Work	Students will be using IDE Eclipse to gain hands-on experience on core JAVA	
Text Book:	1. Herbert Schildt, Java: The Complete Reference, McGraw Hill Education; Ninth edition, ISBN-13 - 978-9339212094. 2. Balagurusamy, Programming with Java, McGraw Hill Education; Fifth edition, ISBN-13 - 978-9351343202	
References:	1. Herbert Schildt, Java: A Beginner's Guide, McGraw Hill Education; Sixth edition, ISBN-13 - 978-9339213039. 2. Yashavant Kanetkar, Let Us Java, BPB Publications; 2nd Edition, ISBN -13-978-8183334679	

Evaluation Component:

Components of Course Evaluation	Percentage
Mid Term	20
End Term	25
Lab Examination	10
Assignment	10
Continuous Lab Evaluation	10
Project	25