

Syllabus

Panjab University, Chandigarh

PGDCA (Semester-II)

Paper Title: Object Oriented Concepts Using JAVA

Paper Code : PGD-2101

Max. Marks: 60

Time : 3 Hrs.

Course Duration: 60

Lectures of one hour each.

Note:

- (i) The Question Paper will consist of Four Sections.
- (ii) Examiner will set total of NINE questions comprising TWO questions from each Section and ONE compulsory question of short answer type covering whole syllabi.
- (iii) The students are required to attempt ONE question from each Section and the Compulsory question.
- (iv) All questions carry equal marks unless specified.

SECTION - A

1. OOPs concepts: Basic Concepts of Object-Oriented Programming (Objects and Classes, Data abstraction and encapsulation, Inheritance, Polymorphism, Dynamic binding, Message communication), difference between procedure oriented and object oriented approach, Benefits of OOP's; Applications of OOP's, Object-Oriented languages.

2. Object oriented programming with JAVA: Byte code, Java virtual machine, Java Development Kit, java tokens, constants, variables, data types, operators, expressions, control structures, defining class, creating objects, accessing class members, method overloading, static members

SECTION - B

3. Inheritance: Defining a subclass, subclass constructor, multilevel inheritance, Hirerchical inheritance. Overriding methods, Final variables, methods, and classes, Abstract Methods and Classes.

4. Visibility Control: Public access, friendly access, protected access, private access, private protected access.

5. **Arrays:** One dimensional array, declaration, creation and initialization of arrays, Array length, Two dimensional array.

SECTION - C

6. **Strings:** String arrays, String methods, String Buffer class

7. **Interfaces:** Defining interfaces, Extending Interfaces, Implementing Interfaces. Accessing Interface variables.

8. **Packages:** Java API packages, Defining a package, Creating and Accessing packages, Adding class to a package, Hiding Classes.

9. **Multithreaded Programming:** Creating Thread, Extending the Thread class, Stopping and Blocking a Thread, Life cycle of a Thread.

SECTION - D

10. **Errors and Exception Handling:** Fundamentals, error types, exception types, using Try and catch, finally statement, Built-in exceptions.

11. **Applet Programming:** Local and remote applets, Applet Life Cycle, Creating an executable Applet, Applet tag, Adding Applet to a HTML file, Passing parameters to Applets.