

P.G. Diploma in Computer Applications  
Second Semester  
PGD-2101: Object Oriented Concepts using JAVA

Time allowed: 3 Hours

Max. Marks: 60

**NOTE:** Attempt five questions in all, including Question No. IX (Unit-V) which is compulsory and selecting one question each from Unit I -IV.

x-x-x

**UNIT – I**

- I. a) Java is object-oriented. What are the advantages of object-oriented programming compared to procedural oriented programming?  
b) Briefly describe the control structures used in Java. Distinguish between while loop and do while loop with the help of a program written in Java. (6,6)
- II. a) What is the role of classes in an object oriented programming languages? Differentiate between a class and an object with the help of a suitable example.  
b) What is method overloading in Java? Explain with an example. (6,6)

**UNIT – II**

- III. a) What is Inheritance? Explain its advantages. Also explain with example how a subclass is derived from a super class in Java.  
b) What is an array in Java? Write a Java program to find the largest integer in an array. (6,6)
- IV. a) Explain the use of final keyword with variable, method and class, by taking examples.  
b) Define class scope. Describe the private, protected and public scope in Java with the help of a Java program. (6,6)

**UNIT – III**

- V. a) What is a String class? Explain any three constructors of String class.  
b) Explain life cycle of thread along with diagram. (6,6)
- VI. a) What is interface in Java? Explain the need of it. Explain with Java program.  
b) What is a package in Java, and how are packages used? Give an example of one of the standard packages that are part of Java. (6,6)

**UNIT – IV**

- VII. What is the need of exception handling? Explain the use of try-catch block in exception handling with the help of a Java program. (12)
- VIII. List four differences between a Java application program and Java applet program, with an example of each type of program. Explain the life cycle of applet, briefly describing all its methods. (12)

**UNIT – V**

- IX. Attempt the following:-  
a) What are the various data types supported by Java?  
b) What is JVM?  
c) What is method overriding?  
d) What is multithreading?  
e) How do you compute the length of an array?  
f) What is a bitwise operator in Java? (6x2)