Time allowed: 3 Hours

Max. Marks: 60

NOTE: *Attempt five questions in all, including Question No. 1 which is compulsory and selecting atleast one question from each Unit.*

x-x-x

Q 1.   (a) How can one convert String to int in Java?

(b) Write a note on garbage collection.   [8X1.5 = 12]

(c) What is method overriding? How is it useful?

(d) Differentiate between packages and interfaces.

(e) List various exception types. Explain java's built-in exception.

(f) When should one use Runnable vs Thread in Java?

(g) What happens when an exception occurs in a thread?

(h) What are the restrictions imposed on Java applets?

UNIT - I

Q 2.   (a) What is the significance of Java operators? List all four groups. Write a Java program to add two matrices.

(b) Define recursion. Write a program in Java to print the first 15 elements of a Fibonacci series.   [1,5]   [1,2,3]

Q 3.   (a) Explain the concept of inheritance. Why Java does not support multiple inheritance?   [4,2]

(b) Discuss the behaviour of overriding methods in the case of inheritance with the help of appropriate examples.

[6]

UNIT - II

Q 4.   (a) Define package. Assume you have written some classes. Now, you decide that they should be split into three packages. Also, assume the classes are currently in the default package. How will you perform the above task?

[6]

(b) Write a Java program to perform the Linear search. Use an appropriate example to explain the output of your code.

[6]

Q 5.   (a) Explain exception handling keywords in Java. Also, write code for custom exceptions in Java.   [3,3]

(b) Explain a few Java exception handling best practices in detail.

[6]

UNIT - III

Q 6.   (a) Write a program to print "Good Morning" and "Welcome!" continuously on the screen using threads. Further, add a step method in the above program to delay the printing of the welcome for 200ms.   [4,2]

(b) Explain the Java thread model. What is the difference between notify and notifyAll? Also, why are they not inside the thread class?

[3,2,1]

Q 7.   (a) What is an applet? Explain the life cycle of an Applet. Also, differentiate between an Applet and Java application.

[1,2,3]

(b) Write a Java program to read content from one file and write it into another file.   [4]

(c) Discuss problems with native methods.

[2]

x-x-x