Answer any five questions
All questions carry equal marks
- - -

1.a) Design a java program to find the factorial of a given number.
 b) Justify method overriding with a suitable example program. [7+8]

2.a) With suitable code segments illustrate various uses of 'final' keyword.
 b) Develop a java program to display the following output.
 1
 1 2
 1 2 3
 1 2 3 4
 1 2 3 4 5 [7+8]

3.a) How to define a package? How to access, import a package? Illustrate with examples.
 b) Justify the concept of variables in interfaces and extending interfaces with example code. [9+6]

4.a) Design an interface called Shape with methods draw() and getArea(). Further design two classes called Circle and Rectangle that implements Shape to compute area of respective shapes. Use appropriate getter and setter methods. Write a java program for the same.
 b) Demonstrate the Random access file operations. [9+6]

5.a) What is thread? Justify the producer - consumer problem using inter - thread communication.
 b) Write a program to illustrate the use of multiple catch blocks for a try block. [9+6]

6.a) Analyze the need of thread synchronization. How is it achieved in Java programming? Explain with a suitable program.
 b) Develop a program that includes a try block and a catch clause which processes the arithmetic exception generated by division-by-zero error. [9+6]

7.a) Show the differences between Array List and Vector in Collection framework.
 b) Design a program to store the names of bank depositors and their current balances by using hash table. [6+9]

8.a) Design a program using an applet which will print "key pressed" on the status window when you press the key, "key released" on status window when you release the key and when you type the character it should print "hello" at co-ordinates (50,50) on Applet.
 b) Demonstrates the different types of Event Listeners supported by java. [9+6]

---ooOoo---