Reg. No. | | | | | | | | | |

MANIPAL INSTITUTE OF TECHNOLOGY
MANIPAL
(A constituent unit of MAHE, Manipal)

IV SEMESTER B.TECH. DEGREE
MAKE UP EXAMINATIONS, JUNE 2019
SUBJECT: PROGRAMMING IN JAVA (open elective) [CSE 3290]
REVISED CREDIT SYSTEM
(21/06/2019)

Time: 3 Hours   MAX. MARKS: 50

Instructions to Candidates:
❖ Answer **ALL FIVE FULL** questions.
❖ Missing data may be suitably assumed.

1A. How are 1D and 2D arrays declared and initialized in java? Give an example program to initialize a matrix to following values and print the matrix.

2	3	4	
6	4		
2	3	4	9
1	2		

4M

1B. Explain the following Java Buzzwords.
    a.   Secure
    b.   Distributed
    c.   Robust   **3M**

1C. What is bytecode? How is it beneficial?   **3M**

2A. With examples, explain and demonstrate the difference between right shift and unsigned right shift operator.   **3M**

2B. What is meant by instance variable hiding? How to overcome it? Explain with relevant examples.   **3M**

2C. With relevant examples, explain two general forms of Super.   **4M**

3A. Create a class called Box containing instance variables: width, height and depth. Include a parameterized constructor to initialize the instance variables. Include a method showvol() which computes and displays the volume of the box. Put the above in a package called BoxPack. Write a program outside the BoxPack package which instantiates the Box class and calls method showvol().   **3M**

3B. What is an abstract class? Why do we need abstract classes?. How an interface is different from abstract class.   **3M**

3C. Distinguish between throw and throws clause. Illustrate user defined exception in java with an example program.   **4M**

4A. Write any two differences between Byte-oriented Streams and Character-oriented Streams. Write a program to copy one file to another using Byte Stream classes. **4M**

4B. Write an applet program to output a message to the status window of the applet viewer. **3M**

4C. What are adapter classes? Give an example to show their usage. **3M**

5A. With proper syntax differentiate between join() and sleep() methods. **2M**

5B. What is multithreading and how is it achieved in java? Write a program to demonstrate multiple threads. Each thread should display numbers from 1 to 10. Use proper exception handling mechanism. **4M**

5C. When is KeyEvent generated? Explain different types of key events. Write a program to handle Keyboard Events. **4M**