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Third Semester MCA Degree Examination, Dec.2018/Jan.2019
Programming using Java

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions.

- 1 a. Explain the key attributes of object oriented programming. (06 Marks)
 b. With a sample java program explain logical operators and short circuit logical operators. (08 Marks)
 c. What is type casting? Illustrate with an example. What is meant by automatic type promotion? Explain with an example. (06 Marks)
- 2 a. What is a constructor and constructor overloading? Write a Java program to find the volume of a box using constructor overloading. (10 Marks)
 b. Differentiate between a for loop and enhanced for loop. Write a program to show the working of for and enhanced for loop. (10 Marks)
- 3 a. Explain bitwise shift operators with example. Write a Java program to demonstrate bitwise operators. (10 Marks)
 b. What are the different ways of constructing strings? Demonstrate various string operations using a Java program. (10 Marks)
- 4 a. Explain the usage of "super" in Java with illustration. (10 Marks)
 b. Write short notes with an example:
 (i) Variable length arguments
 (ii) Abstract classes. (10 Marks)
- 5 a. What are interfaces? What are their benefits? Explain how it is implemented. (10 Marks)
 b. Write the steps for working with packages. Write a program to create classes for common shapes like square, triangle and circle, create a package called shape and a program to use it. (10 Marks)
- 6 a. Explain how exception handling mechanism can be used for debugging a program. (10 Marks)
 b. Discuss the concept of synchronization in multiple threads. Write a Java program to synchronize access to a method. (10 Marks)
- 7 a. What is autoboxing and autounboxing in arithmetic expressions? Explain with an example. (10 Marks)
 b. Explain applet architecture along with initialization and termination of applet. (10 Marks)
- 8 a. What is a swing? Explain the two key features of swing. (06 Marks)
 b. Define event, event source and event listener with example. (06 Marks)
 c. What is a socket? Explain the use of getInetAddress(), getPort() and isConnected() methods. With a sample program demonstrate sockets. (08 Marks)

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