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13MCA32

**Third Semester MCA Degree Examination, Aug./Sept. 2020**  
**Programming using Java**

Time: 3 hrs.

Max. Marks:100

**Note: Answer any FIVE full questions.**

- 1 a. Explain Java's automatic conversion and automatic type promotion with an example for each. (08 Marks)  
b. Describe the working of right shift with zero fill operator with an example. (06 Marks)  
c. Explain working of for each with suitable example. (06 Marks)
- 2 a. What is garbage collection in Java? Discuss finalize method. (10 Marks)  
b. What is the significance of String Buffer class? Explain the following methods with an example for each. i) length() ii) capacity() iii) append iv) reverse (). (10 Marks)
- 3 a. Explain the two different ways of passing arguments to a subroutine. (10 Marks)  
b. Explain constructor overloading and method overloading with an example for each. (10 Marks)
- 4 a. What is the use of static method in a class? Explain with the help of a program. (10 Marks)  
b. Explain the usage of super keyword in Java with the help of a program. (10 Marks)
- 5 a. What is an interface? Write the features of interface? Write a simple program for the implementation of multiple inheritance using interfaces to calculate the area of rectangle and triangle. (10 Marks)  
b. What are packages? Explain how to create a package and access the package with an example program. (10 Marks)
- 6 a. Explain the following keywords with an example for each :  
i) try ii) catch iii) throw iv) throws v) finally. (10 Marks)  
b. What is the importance of interthread communication? Explain with a java program. (10 Marks)
- 7 a. What are generics? Explain with a program. (10 Marks)  
b. Write a java program to print a chess board pattern. (10 Marks)
- 8 Write short note on :  
a. File InputStream class  
b. Collection interface  
c. Autoboxing  
d. Socket class. (20 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.

