Question Paper Code: 44203

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2022

Fourth Semester

Computer Science and Engineering

14UCS403 - JAVA PROGRAMMING

(Common to Information Technology)

(Regulation 2014)

Duration: Three hours   Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

1. Consider public class MyClass{ public MyClass(){/*code*/} // more code... } To instantiate MyClass, you would write?

    (a) MyClass mc = new MyClass();   (b) MyClass mc = MyClass();
    (c) MyClass mc = MyClass;   (d) MyClass mc = new MyClass;

2. What is byte code in the context of Java?

    (a) The type of code generated by a Java compiler
    (b) The type of code generated by a Java Virtual Machine
    (c) It is another name for a Java source file
    (d) It is the code written within the instance methods of a class. 8

3. Super class can be inherited to for

    (a) Specialized classes   (b) Inner classes
    (c) Object classes   (d) General classes

4. Java does not support _____ inheritance

    (a) Multiple   (b) Multilevel   (c) Hierarchy   (d) Simple

5. All exception types are subclasses of the built in class called

    (a) Exception   (b) Throwable   (c) Package   (d) Utility classes

6. Which function of pre-defined class Thread is used to check weather current thread being checked is still running?

    (a) is Alive ( )   (b) Join ( )   (c) is Running ( )   (d) Alive ( )

7. Which class provides many methods for graphics programming?

    (a) java.awt   (b) java.Graphics
    (c) java.awt.Graphics   (d) none of these

8. Which is the container that doesn't contain title bar and MenuBars. It can have other components like button, textfieldetc?

    (a) Window   (b) Frame   (c) Panel   (d) Container

9. Which type of driver converts JDBC calls into the network protocol used by the database management system directly?

    (a) Type 1 driver   (b) Type 2 driver
    (c) Type 3 driver   (d) Type 4 driver

10. Which of these is a method of ObjectOutput interface used to finalize the output state so that any buffers are cleared?

    (a) clear()   (b) flush()   (c) fflush()   (d) close()

PART - B (5 x 2 = 10 Marks)

11. Differentiate a constructor and a method.

12. What is an abstract class?

13. Define multithreaded programming.

14. What is AWT?

15. What does the Serializable interface do?

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PART - C (5 x 16 = 80 Marks)

16. (a) (i) State the use of constructor and finalize( ) method in java using a programming example. Show how garbage collection is achieved here. (8)

    (ii) Why do we need static members and how to access them? Explain it with clear example. (8)

Or

   (b) Write a program to perform the following functions using classes, objects, constructors and destructors where essential.

    (i) Get as input the marks of 5 students in 5 subjects

    (ii) Calculate the total and average

    (iii) Print the formatted result on the screen. (16)

17. (a) What is dynamic binding? Show with an example how dynamic binding works. (16)

Or

   (b) Define an interface "IntOperations" with methods to check whether an integer is positive, negative, even, odd, prime and operations like factorial and sum of digits. Define a class MyNumber having one private int data member. Write a default constructor to initialize it to 0 and another constructor to initialize it to a value (Use this). Implement the above interface. Create an object in main. Use constructors to pass a value to the object. (16)

18. (a) Explain thread synchronization with examples. (16)

Or

   (b) How are exceptions handled in Java? Elaborate with suitable examples. (16)

19. (a) Write a program to create a frame with the following menus, such that the corresponding geometric object is created when a menu is clicked.

    (i) Circle

    (ii) Rectangle

    (iii) Line (16)

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(b) Write a number guessing game (as shown in the Figure). The program shall generate a random number between 1 to 100. It shall mask out the random number generated and output "Yot Got it", "Try Higher" or "Try Lower" depending on the user's input. (16)

20. (a) Describe about the different input and output streams and their classes. (16)

Or

(b) Write a java program from an banking application using JDBC (Consider 5 customers, create account number and types, set some minimum balance, do credit and operation and print out the consolidated report for month wise transaction). (16)

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