



SRI SHAKTHI INSTITUTE OF ENGINEERING AND TECHNOLOGY
(An Autonomous Institution)
Affiliated to Anna University, Chennai
Re-Accredited by NAAC with "A", Recognized by UGC with Section 2(f) and 12(B)
NBA Accredited UG Programmes : Agri, BME, BT, CSE, ECE, EEE, MECH and IT
Coimbatore - 641 062, I & T By Pass, Tamil Nadu, India



Date: 18.02.2025

Reg No:

714023243095

CONTINUOUS INTERNAL ASSESMENT Test - I
Fourth Semester (Regulation 2021)
B-Tech /ARTIFICIAL INTELLIGENCE AND DATA SCIENCE
21AM422 – JAVA PROGRAMMING

Time: 1 hour 30 minutes

Maximum: 50 Marks

Answer all the Questions

Part A - (12 x 0.5=6 Marks)

- _____ is the process of defining a new class based on an existing class.
- Identify which one of the following is not a Java feature?
a) Object-oriented b) Use of pointers
c) Portable d) Dynamic and Extensible
- Private methods of a parent class can be accessed directly in a subclass. True / False
- The default access specifier in Java allows access within the _____.
- In java which defines best polymorphism?
a) Ability to take multiple forms
b) Using objects from another class
c) Hiding data from outside access
d) Creating multiple instances of a class
- The "this" keyword in Java is used to refer to _____.
- _____ is a valid Java identifier
a) 123Java b) _studentName c) public-class d) for
- In Java, static variables are stored in:
a) Heap memory b) Stack memory
c) Method area d) Cache memory
- A constructor that takes no arguments is called a _____ constructor.
- _____ is not a looping statement in Java?
a) for b) while c) switch. d) do-while

SET 2

11. Java uses both interpreter and compiler for program execution. True / False
12. _____ is the process of passing an object as an argument to a method.

Answer all the Questions
Part B - (3*2=6 Marks)

13. Interpret a program for finding largest of 3 numbers using the ternary operator in Java
14. Identify deep copy and shallow copy in Java.
15. Implement the significance of final keyword for variables, methods, and classes.

Answer any two questions
Part C - (2*14=28 Marks)

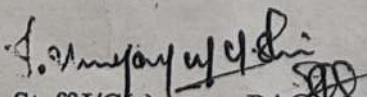
16. Compare and contrast method overloading and method overriding in Java. Provide real-world use cases and code examples.
17. Justify the impact of static members in Java programming. Explain with examples how static methods and variables work.
18. Create a program to create a class Bird also declares the different types of constructor to display the name of Birds.

Answer the questions
Part D - (1*10=10 Marks)

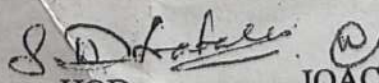
19. Java follows the principle "Write Once, Run Anywhere" (WORA). Critically evaluate this statement and explain how Java achieves platform independence.

OR

20. Derive a Java Program "Student Management System" for achieving the concept of Encapsulation by accepting a name, id, marks of a student and display it by using the Java concepts: Class, Object, Constructor, and Methods.


Staff I/C(s)

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Coimbatore - 641 062, L & T By Pass, Tamil Nadu, India

Date: 25.03.2025

Reg No:

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CONTINUOUS INTERNAL ASSESSMENT - II

Fourth Semester (Regulation 2021)

B-Tech /ARTIFICIAL INTELLIGENCE AND DATA SCIENCE

21AM422 – JAVA PROGRAMMING

Time: 1 hour 30 minutes

Maximum: 50 Marks

Answer all the Questions

Part A - (12 x 0.5=6 Marks)

1. _____ is the parent class of all Java classes.
2. In Java, a subclass can access the protected members of its superclass. (True / False)
3. A method that has the same name but different parameters within the same class is an example of _____.
4. The keyword used to prevent a class from being inherited is:
a) static b) final c) protected d) abstract
5. A class that cannot be instantiated is called _____.
6. The output of 10 / 0 in Java?
a) Compilation Error b) ArithmeticException
c) Runtime Error d) 0
7. How can we handle exceptions in Java
a) using try-catch b) using throws
c) Both (a) and (b) d) None of the above
8. Can an interface have a constructor? (True/False)
9. "this" keyword refers to _____.
10. In Java, exception handling follows the _____ model.
11. A finally block is executed whether an exception occurs or not. (True / False)
12. A Java interface can have method implementations using the keyword _____.

Answer all the Questions
Part B - (3*2=6 Marks)

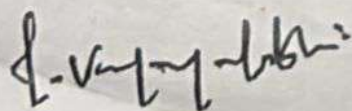
13. Identify the difference between checked and unchecked exceptions with examples.
14. Indicate a Java program to find whether a given string is a palindrome.
15. Illustrate the concept of multiple catch blocks in Java with an example.

Answer any two questions
Part C - (2*14=28 Marks)

16. a) Generate a Java program to print Fibonacci numbers up to N terms using recursion. (7 Marks)
b) Create a Java program to find the sum of all digits of a given number. (7 Marks)
17. Create a Java program to demonstrate constructor chaining in inheritance.
18. Structure a Java program to define an interface Vehicle with a method speed(). Implement this interface in two classes: Car and Bike.

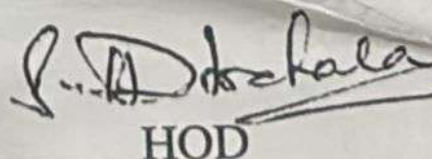
Answer the questions
Part D - (1*10=10 Marks)

19. Determine a Java program to implement custom exception handling by creating a user-defined exception class InvalidAgeException.
(OR)
20. Derive a Java program to demonstrate data hiding and encapsulation using a class Student with private attributes (name, age, marks) and appropriate getter and setter methods.





Staff I/C(s)


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	Date: 29.04.2025	

Reg No:

714023243095

CONTINUOUS INTERNAL ASSESSMENT - III
Fourth Semester (Regulation 2021)
B-Tech /ARTIFICIAL INTELLIGENCE AND DATA SCIENCE
21AM422 – JAVA PROGRAMMING

Time: 1 hour 30 minutes

Maximum: 50 Marks

Answer all the Questions

Part A - (12 x 0.5=6 Marks)

- _____ is thrown when an invalid index is accessed in an array.
- In Java, _____ is used to read input from the console.
- The base class of all exceptions is _____.
- A try block must be followed by either a catch or a _____ block.
- _____ is used to convert primitive data types into objects.
 - encapsulation
 - polymorphism
 - autoboxing
 - abstraction
- A FileInputStream reads data in the form of _____.
 - bytes
 - characters
 - lines
 - tokens
- _____ classes implements the List interface
 - HashMap
 - ArrayList
 - TreeSet
 - HashSet
- Generics in Java enable _____ type checking at compile time.
 - runtime
 - static
 - dynamic
 - pointer-based
- _____ JDBC interface is used to execute static SQL statements.
 - Connection
 - ResultSet
 - Statement
 - Driver
- _____ keyword is used to explicitly throw an exception.
- In JDBC, `ResultSet.TYPE_SCROLL_INSENSITIVE` allows _____.
 - forward movement only
 - moving in both directions
 - no movement
 - real-time updates
- The process of providing a new definition to a method in a subclass is called _____.

Answer all the Questions
Part B - (3*2=6 Marks)

13. Illustrate a Java program to demonstrate "ZeroDivisionError" using exception handling
14. Identify a Java program to create an ArrayList and add five elements to it.
15. Illustrate the role of DriverManager and Connection in JDBC.

Answer any two questions

Part C - (2*14=28 Marks)

16. a) Resolve a program for the following Floyd's triangle pattern:

```
1
2 3
4 5 6
7 8 9 10
```

Hint: Input is given as 4.

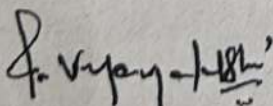
- b) Construct a Java program to read data from a file and write it into another file using BufferedReader and BufferedWriter.
17. Derive a file-processing system needs to read data from a file. It may throw FileNotFoundException if the file doesn't exist and IOException if there is an error while reading.
18. Design a Java program to handle both FileNotFoundException and IOException using multiple catch blocks.

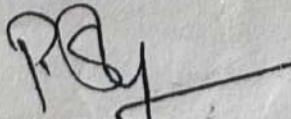
Answer the questions
Part D - (1*10=10 Marks)

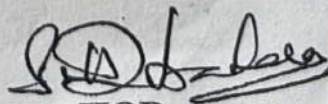
19. Derive a Java application to:
Create a Product class
Store product details in an ArrayList
Iterate and print products using enhanced for loop
Use generics to ensure type safety

(OR)

20. Parse a JDBC program that connects to a database, retrieves all rows from a table employees, and displays the data. Use PreparedStatement and handle SQL exceptions properly.


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