

(FOR THE CANDIDATES ADMITTED

23UA1204

DURING THE ACADEMIC YEAR 2023-2024 ONLY)

REG.NO. :

N.G.M.COLLEGE (AUTONOMOUS) : POLLACHI

END-OF-SEMESTER EXAMINATIONS : MAY 2024

BSC.CS WITH AI & ML(SF)

MAXIMUM MARKS: 75

SEMESTER-II

TIME : 3 HOURS

PART - III

23UA1204 – PROGRAMMING IN JAVA

SECTION – A

(10 X 1 = 10 MARKS)

ANSWER THE FOLLOWING QUESTIONS.(K1)

1. Choose the option that is not an OOPS concept in Java_____

- a) Polymorphism b) Inheritance c) Compilation d) Encapsulation

2. Select the output of the following Java code_____

```
class increment {  
    public static void main(String args[])  
    {  
        int g = 3;  
        System.out.print(++g * 8);  
    }  
}
```

- a) 32 b) 33 c) 24 d) 25

3. Identify the keyword that is used to define interfaces in Java_____

- a) intf
b) Intf
c) interface
d) Interface

4. Identify the statement that is incorrect about Thread_____

- a) start() method is used to begin the execution of the thread
b) run() method is used to begin execution of a thread before start() method in special cases
c) A thread can be formed by implementing a Runnable interface only
d) A thread can be formed by a class that extends the Thread class

5. Identify the one that is a type of stream in Java_____

- a) Integer stream b) Short stream
c) Byte stream d) Long stream

(CONTD 2)

ANSWER THE FOLLOWING IN ONE (OR) TWO SENTENCES**(K2)**

6. Distinguish between Object Oriented and Procedure Oriented programming.
7. Define data type.
8. Illustrate the concept of class and object in Java.
9. Indicate any two Java packages.
10. Define Array Index Out Of Bounds Exception.

SECTION – B**(5 X 5 = 25 MARKS)****ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.(K3)**

11. a) Examine any five benefits of OOPs.
(OR)
b) List a few object-oriented languages and their features.
12. a) Find whether the input number is an Armstrong no or not. (ex: $1^3+5^3+3^3 = 153$)
(OR)
b) Interpret the functions of Relational and Logical operators with suitable examples.
13. a) Describe the features of Arrays with suitable examples.
(OR)
b) Compare Call by Value and Call by Reference mechanism.
14. a) List the built-in packages of Java with their default methods.
(OR)
b) Describe the life cycle of threads with a suitable diagram.
15. a) Assess the role of the various methods used in the Input Stream class.
(OR)
b) Show the Java statements for performing the following operations by using data streams.
 - i) reading data from a file
 - ii) writing data into a file

SECTION – C**(5 X 8 = 40 MARKS)****ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.(K4 (Or) K5)**

16. a) Discuss the concepts of Object - Object-oriented programming with suitable illustrations.
(OR)
b) Determine the applications of OOP with a programming scenario.
17. a) Construct a Java program to find whether the input number is a palindrome or not. (ex, 161 is a palindrome)
(OR)
b) Determine the necessity of a decision-making statement in Java with suitable examples.
18. a) Calculate the gross pay of an employee using Inheritance (Use the formula: gross = salary+ da (15% of salary) + hra (10% of salary) – deductions)
(OR)
b) Construct a class VowelWord to find the frequency of the occurrence of vowels in each word from an input sentence.
19. a) Develop a package called 'geometry' a class 'Area' with the function void that contains areacircle() to accept the radius of a circle and calculate and print its area.
(OR)
b) Construct a thread in Java by using the Runnable interface.
20. a) Evaluate the various functions used in a File Class.
(OR)
b) Summarize the various File operations with suitable examples.