

**2023**

**INFORMATION TECHNOLOGY**

Paper : INT-VC-4026

**( Programming in Java )**

Full Marks : 60

Time : 3 hours

*The figures in the margin indicate full marks for the questions*

1. Answer the following as directed : 1×7=7

(a) String in Java is a/an

(i) class

(ii) object

(iii) character array

(iv) None of the above

( Choose the correct answer )

(b) AWT stands for

(i) All Window Testkit

(ii) Abstract Window Toolkit

(iii) Abstract Window Text

(iv) None of the above

( Choose the correct answer )

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(c) The extension of a Java Bytecode is

- (i) .java
- (ii) .bytecode
- (iii) .class
- (iv) .jvm

( Choose the correct answer )

(d) Which one of the following is not a data type in Java?

- (i) short
- (ii) long
- (iii) side
- (iv) int

( Choose the correct answer )

(e) Which of the following is a type of stream in Java?

- (i) Integer stream
- (ii) Short stream
- (iii) Byte stream
- (iv) Long stream

( Choose the correct answer )

(f) Which of the following methods of class String is used to compare two String objects for their equality?

(i) equals( )

(ii) Equals( )

(iii) isEqual( )

(iv) isEqualTo( )

( Choose the correct answer )

(g) Java is both compiled and interpreted language.

( State True or False )

2. Answer the following questions (very short answer-type) : 2×4=8

(a) Write any two features of Java.

(b) How does Java differ from C++?

(c) Mention the relational operators in Java.

(d) Differentiate between String and StringBuilder.

3. Answer any *three* of the following questions : 5×3=15

(a) Differentiate between  $x=++y$  and  $x=y++$ .

(b) Explain the life cycle of an Applet in Java.

- (c) Write and explain any three methods of the String class.
- (d) What is method overriding? Explain.
- (e) Write a Java program to find  $a \bmod b$  using scanner class to take input in  $a$  and  $b$ .

4. Answer any *three* of the following questions :

10×3=30

- (a) Write a Java program to implement multilevel inheritance.
- (b) Write Java programs to find—
  - (i) whether a number is Armstrong or not;
  - (ii) the sum of all elements in an array.
- (c) Write a Java program to implement constructor overloading.
- (d) What is JDBC? What are the components of JDBC? Mention the steps to create JDBC connection.
- (e) Write short notes on any *two* of the following :
  - (i) Event handling drivers in Java
  - (ii) Applet embedding in HTML
  - (iii) Multithreading in Java
  - (iv) Writing into a file in Java
  - (v) Abstract classes

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