

Total number of printed pages—3

53 (IT 501) JVPR

2021

**JAVA PROGRAMMING**

Paper : IT 501

Full Marks : 100

Time : Three hours

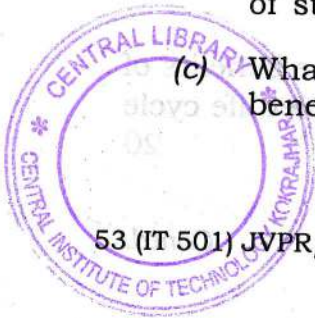
**The figures in the margin indicate full marks for the questions.**

*Answer any five questions.*

1. (a) "Java is called a machine independent language." Justify. 5
- (b) What are the different types of packages available in Java? Explain with examples. 10
- (c) What are the uses of 'super' and 'final' keyword in Java? 5
2. What is an applet? What are the benefits of using applets? Discuss the applet life cycle and give suitable example. 20

*Contd.*

3. (a) What is interface? How does Java support multiple interfaces? Explain with example. 10
- (b) What are exceptions? Discuss exception handling in Java with suitable example. 10
4. (a) Write a Java program that will count the number of characters, words and lines in a file. 10
- (b) What is meant by event handling in Java? How does it work? 10
5. (a) Implement a Java client and Server side socket program to exchange messages between them. 10
- (b) Describe the major tasks of input and output stream classes. 10
6. (a) Explain the terms autoboxing and unboxing. 5
- (b) Write a Java program to sort an array of strings in alphabetical order. 10
- (c) What is multithreading? Write the benefits of multithreaded program. 5



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7. Write short notes on the following : **(any four)**  
5×4=20

- (i) Servlet
- (ii) J2ME
- (iii) JDBC
- (iv) Polymorphism
- (v) Swing components
- (vi) Abstract class.

