| Reg. No. | | | | | | | | | | | | |
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| Question Paper Code | 11695 |
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**B.E. / B.Tech. - DEGREE EXAMINATIONS, NOV/DEC 2022**

Third Semester

**Computer Science and Engineering**

(Common to Computer Science and Business Systems, Information Technology & Computer and Communication Engineering)

**20CSPC301 - OBJECT ORIENTED PROGRAMMING**

(Regulations 2020)

Duration: 3 Hours | Max. Marks: 100

**PART - A (10 × 2 = 20 Marks)**

Answer ALL Questions

| | | Marks, K-Level, CO |
|---|---|---|
| 1. | Explain briefly why Java is called as platform independent language. | 2,K2,CO1 |
| 2. | How to use String Object as expression in switch statement? | 2,K1,CO1 |
| 3. | Distinguish between class and interface. | 2,K2,CO2 |
| 4. | What is super class? How to invoke super class constructor from the subclass in Java? | 2,K1,CO2 |
| 5. | What happens when there is no suitable try block to handle exception? | 2,K1,CO3 |
| 6. | Distinguish between println(), print() and printf() in Java. | 2,K2,CO3 |
| 7. | How does Java support inter thread communication? | 2,K1,CO4 |
| 8. | What is the role of join( ) in multithreading? | 2,K1,CO4 |
| 9. | How lambda expression and functional interfaces are related? | 2,K1,CO5 |
| 10. | What are the main features of ReactiveX? | 2,K1,CO5 |

**PART - B (5 × 13 = 65 Marks)**

Answer ALL Questions

| | | | |
|---|---|---|---|
| 11. | a) | Define and explain the control flow statements in Java with suitable examples | 13,K2,CO1 |
| | | **OR** | |
| | b) | (i) Describe briefly about operators in Java. | 6,K2,CO1 |
| | | (ii) Write a Java program to reverse the given number. | 7,K3,CO1 |
| 12. | a) | What is inheritance in java? Explain the Super keyword with the help of an example program. | 13,K2,CO2 |
| | | **OR** | |
| | b) | (i) Define Package? Explain how the java compiler locates packages? | 5,K2,CO2 |
| | | (ii) Explain the types of package with example programs. | 8,K2,CO2 |

13. a) Explain how Strings are handled in Java? Discuss about some methods of String class with examples. *13,K2,CO3*

**OR**

b) Discuss in detail about multiple inheritance and explain how to achieve multiple inheritance in Java with examples. *13,K2,CO3*

14. a) (i) Discuss how to handle multiple catch blocks for a nested try block? Explain with an example. *7,K2,CO4*

(ii) Describe how to define a user exception in a program? Illustrate with an example. *6,K2,CO4*

**OR**

b) Write short notes on various I/O streams in Java with examples. *13,K3,CO4*

15. a) Explain the concept of Multithreading with suitable examples. *13,K2,CO5*

**OR**

b) With an example, explain in detail about Generic Programming. *13,K2,CO5*

## PART - C (1 × 15 = 15 Marks)

16. a) Write simple Web applications using Reactive programming. *15,K3,CO6*

**OR**

b) (i) Discuss about the Comparator Interface in Java. *5,K2,CO6*

(ii) Write a Java Program to create a Java class as follows: class Student with data members Name, Rollno, Mark1, Mark2, Mark3. Initialize 10 objects for the class with relevant details using a constructor. Sort the objects of the class in ascending order of total marks. Use Java Collections and Comparator in your application. *10,K3,CO6*