# JAVA Programming

| **Course Code** | 23SO8553 | **Year** | III | **Semester** | I |
|---|---|---|---|---|---|
| **Course Category** | SOC | **Branch** | ECE | **Course Type** | Practical |
| **Credits** | 2 | **L-T-P** | 1-0-2 | **Prerequisites** | Programming With C |
| **Continuous Internal Evaluation:** | 30 | **Semester End Evaluation:** | **70** | **Total Marks:** | 100 |

| **Course Outcomes** | | |
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| Upon successful completion of the course, the student will be able to | | **BL** |
| **CO1** | Apply object oriented principles/ Java constructs for solving problems. | L3 |
| **CO2** | Implement programs as an individual on different IDE/ online platforms. | L3 |
| **CO3** | Develop an effective report based on various programs implemented | L3 |
| **CO4** | Apply technical knowledge for a given problem and express with an Effective oral communication. | L3 |
| **CO5** | Analyze outputs using given constraints/test cases. | L4 |

**Contribution of Course Outcomes towards achievement of Program Outcomes & Strength of Correlations ( 3:High, 2:Medium, 1:Low )**

| **COs** | **PO1** | **PO2** | **PO3** | **PO4** | **PO5** | **PO6** | **PO7** | **PO8** | **PO9** | **PO10** | **PO11** | **PO12** | **PSO1** | **PSO2** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CO1** | 3 | | | | 3 | | | | 1 | | | 1 | 1 | |
| **CO2** | 3 | | | | 3 | | | | 1 | | | 1 | 1 | |
| **CO3** | | | | | | | | 1 | 1 | 3 | | 1 | | |
| **CO4** | | | | | | | | 1 | 1 | 3 | | 1 | | |
| **CO5** | 3 | 3 | | | 3 | | | | 1 | | | 1 | 1 | |
| Average | 3 | 3 | | | 3 | | | 1 | 1 | 3 | | 1 | 1 | |

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| **Syllabus** | | |
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| **Expt. No.** | **Contents** | **Mapped CO** |
| 1 | Implement Java Programs by using Conditional Statements, Switch and loops with suitable examples | CO1-CO5 |
| 2 | Develop Java Programs Using 1D Arrays and 2D arrays | CO1-CO5 |
| 3 | Use String, String Buffer and String Tokenizer classes to develop Java programs | CO1-CO5 |
| 4 | Implement the concept of static variables, static methods and static block | CO1-CO5 |
| 5 | Implement the concept of instantiation of objects using Classes | CO1-CO5 |
| 6 | Implement reusability concept through inheritance | CO1-CO5 |
| 7 | Implement concept of Polymorphism using method: Overloading and overriding | CO1-CO5 |

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|---|---|---|
| 8 | Develop Java programs using Abstract Class to achieve Partial abstraction | CO1-CO5 |
| 9 | Use interfaces to develop Java programs with complete Abstraction | CO1-CO5 |
| 10 | Create a package and access members from the package to avoid naming conflicts. | CO1-CO5 |
| 11 | Implement Exception handling to build robust programs. | CO1-CO5 |
| 12 | Develop Java programs using Multithreading for process synchronization | CO1-CO5 |
| 13 | Implement various data structures using Collection framework | CO1-CO5 |

| **Learning Resources** |
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| **Text Books** |
| 1. Herbert Schildt Java - The Complete Reference, 9th Ed., McGraw-Hill. |
| **Reference Books** |
| 1. Y. Daniel Liang Pearson - Introduction to Java Programming 10th Ed., |
| **e- Resources & other digital material** |
| 1. https://nptel.ac.in/courses/106105191 |