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| **[Course](#_bookmark2)** [**Code**](#_bookmark2) | 21IPE336T | **Course Name** | Advanced Java Programming | **Course Category** | E | PROFESSIONAL ELECTIVE | L | T | P | C |
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| **Pre-requisite Courses** | *Nil* | | **Co- requisite Courses** | *Nil* | | **Progressive Courses** | *Nil* |
| **Course Offering Department** | | *School of Computing - CSE* | | | **Data Book / Codes / Standards** | *Nil* | |

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| |  |  |  | | --- | --- | --- | | **Course Learning Rationale (CLR):** | | ***The purpose of learning this course is to:*** | | ***CLR-1:*** | *Explore scenario-based problems in problem solving and form validation and build domain model for Real -time programs.* | | | ***CLR-2:*** | *Utilize the methodologies of data Formats* | | | ***CLR-3:*** | *Familiarize with predictive modeling of UI Design Process of AngularJS* | | | ***CLR-4:*** | *Gain knowledge on Spring boot* | | | ***CLR-5:*** | *Understand System Integration* | | | | | **Program Outcomes (PO)** | | | | | | | | | | | | **Program Specific**  **Outcomes** | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Engineering Knowledge | Problem Analysis | Design/development of solutions | Conduct investigations of complex problems | Modern Tool Usage | The engineer and society | Environment & Sustainability | Ethics | Individual & Team Work | Communication | Project Mgt. & Finance | Life Long Learning | PSO-1 | PSO-2 | PSO-3 |
| **Course Outcomes (CO):** | | ***At the end of this course, learners will be able to:*** |
| ***CO-1:*** | *Infer the concepts of Problem solving and form Validations* | | *3* | *2* | *1* |  |  |  |  |  |  |  |  |  |  |  |  |
| ***CO-2:*** | *Understand Common data formats* | | *1* | *2* | *3* |  |  |  |  |  |  |  |  |  |  |  |  |
| ***CO-3:*** | *Apply UI Design process of Angular JS technique* | | *1* | *2* | *3* |  |  |  |  |  |  |  |  |  |  |  |  |
| ***CO-4:*** | *Determine the technologies for Spring boot* | | *1* | *2* | *3* |  |  |  |  |  |  |  |  |  |  |  |  |
| ***CO-5:*** | *Devise and acquire knowledge on System Integration* | | *1* | *2* | *3* |  |  |  |  |  |  |  |  |  |  |  |  |

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| ***Unit -1 Problem Solving and Form validation*** | ***9 Hour*** |
| *Scenario Based Problems: Logical, Number, String and Pattern processing, DHTML, Java Script, forms validation, regular expressions* | |
| ***Unit -2 Introduction to Data formats*** | ***9 Hour*** |
| *XML: Introduction-Document type definition-XML Schema, XSL and XSLT Transformation, JSON-Introduction, Json data types, Objects, JSON vs XML.* | |
| ***Unit -3 UI Design Angular JS*** | ***9 Hour*** |
| *Introduction about Angular JS MVC, Control Statement, Services, Controller, Component, Module, Data binding, Angular JS, forms, Validation, Mini Project.* | |
| ***Unit -4 Spring boot*** | ***9 Hour*** |
| *Introduction about Spring boot, Spring boot Installation, Spring boot Architecture, Spring I.O, Annotations, Dependencies, RDBMS-CRUD Operations.* | |
| ***Unit -5 System Integration*** | ***9 Hour*** |
| *Overview of Systen Integration, Webservices, Micro vs Monolithic Webservices, REST API, Hibernate, Web application with AngularJS and Spring boot, Mini Project.* | |

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| **Learning Resources** | 1. Herbert Schildt, Java the complete reference, Tata Mc -Graw Hill, 13th Edition, 2024 2. Dinesh Rajput, Mastering Spring boot 2.0, Packt Publishing,2nd Edition,2018. 3. Devlin Basilan Duldulao, Seiji Ralph Villafranca, Spring boot and Angular, Packt Publishing,1st Edition, 2022. 4. Firdaus Fadzil, java UI Design with swing and java FX,1st Edition, 2020. 5. Paul Deitel, Harvey Deitel, java how to programs, early objects. 11th edition Pearson ,2018. |  |

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| **Learning Assessment** | | | | | | | |
|  | *Bloom’s*  *Level of Thinking* | *Continuous Learning Assessment (CLA)* | | | | *Summative Final Examination (40% weightage)* | |
| *Formative*  *CLA-1 Average of unit test (30%)* | | *Life Long Learning*  *CLA-2*  *(30%)* | |
| *Theory* | *Practice* | *Theory* | *Practice* | *Theory* | *Practice* |
| Level 1 | *Remember* | 15% | *-* | 15% | *-* | 15% | *-* |
| Level 2 | *Understand* | 15% | *-* | 15% | *-* | 20% | *-* |
| Level 3 | *Apply* | 40% | *-* | 40% | *-* | 30% | *-* |
| Level 4 | *Analyze* | 15% | *-* | 15% | *-* | 20% | *-* |
| Level 5 | *Evaluate* | 15% | *-* | 15% | *-* | 15% | *-* |
| Level 6 | *Create* | *-* | *-* | *-* | *-* | *-* | *-* |
|  | *Total* | *100 %* | | *100 %* | | *100%* | |

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| **Course Designers** | | |
| **Experts from Industry** | **Experts from Higher Technical Institutions** | **Internal Experts** |
| 1. *Mr.Krishnan Prabu, VOLVO, Bengaluru, Karnataka, India* [*prabu.krishnan@volvo.com*](mailto:prabu.krishnan@volvo.com) | *Dr.Joe Louis Paul ,SSN College of Engineering, Chennai.* | *1.**Dr.S.Venkatesh, SRMIST*  *2. Dr.N.Vasudevan, SRMIST* |