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Description generated with very high confidence

**Course Plan**

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| **Department :** | Computer Science & Engineering |
| **Course Name & code :** | ELECTIVE - III WEB SERVICES & CSE 5011 |
| **Semester & branch :** | II & CSE |
| **Name of the faculty :** | Mr. Roshan David |
| **No of contact hours/week:** | |  |  |  |  | | --- | --- | --- | --- | | **L** | **T** | **P** | **C** | | 4 | 0 | 0 | 4 | |

**Course Outcomes (COs)**

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|  | ***At the end of this course, the student should be able to:*** | **No. of Contact Hours** | **Marks** |
| CO1: | Understand the XML family of technologies and the latest W3C standards. | 8 | 16 |
| CO2: | Apply the design principles of SOAP and REST based web services. | 16 | 34 |
| CO3: | Analyze and design enterprise software applications based on service-oriented architecture . | 8 | 18 |
| CO4: | Implement ReST based web services. | 8 | 16 |
| CO5: | Apply concepts of Microservices in a realistic business scenario. | 8 | 16 |
|  | **Total** | 48 | 100 |

**Assessment Plan**

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| **Components** | **Assignments** | **Sessional Tests** | **End Semester/**  **Make-up Examination** |
| **Duration** | 20 to 30 minutes | 60 minutes | 180 minutes |
| **Weightage** | 20 % (4 X 5 marks) | 30 % (2 X 15 Marks) | 50 % (1 X 50 Marks) |
| **Typology of Questions** | Understanding; Applying; Analyzing; Evaluating; Creating | Remembering;  Understanding; Applying | Understanding; Applying; Analyzing; Evaluating; Creating |
| **Pattern** | Answer one randomly selected question from the problem sheet (Students can refer their class notes) | MCQ (10 marks):  10 questions of 0.5 marks each  Short Answers (10 marks): questions of 2 or 3 marks | Answer all 5 full questions of 10 marks each. Each question may have 2 to 3 parts of 3/4/5/6/7 marks |
| **Schedule** | As notified by Associate Director (Academics) at the start of each semester | Calendared activity | Calendared activity |
| **Topics Covered** | Assignment 1 (L 1-12& T **y1-y2**) **(CO 1 & 2)** | Test 1  (L 1-18& T **b1-b2**)  **(CO 1 & 2)** | Comprehensive examination covering full syllabus. Students are expected to answer all questions **(CO1-5)** |
| Assignment 2 (L **13-24**& T **y3-y4**) **(CO 2)** |
| Assignment 3 (L 25-32& T **y5-y6**) **(CO 3)** | Test 2  (L 19-38& T **b3-b4**)  **(CO 2, 3 & 4)** |
| Assignment 4 (L 33-40& T **y7-y8**) **(CO 4)** |

**Lesson Plan**

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| **L. No.** | **Topics** | **Course Outcome Addressed** |
| **L0** | Introduction | CO |
| **L1** | XML | 1 |
| **L2** | XML Namespaces | 1 |
| **L3** | XML Schema Definition Language (XSD) | 1 |
| **L4** | XML Path Language (XPath) | 1 |
| **L5** | XHTML and HTML5 | 1 |
| **L6** | Javascript | 1 |
| **L7** | AJAX | 1 |
| **L8** | Parsing XML with Document Object Model (DOM) | 1 |
| **L9** | Web Services Definition Language (WSDL) | 2 |
| **L10** | Web Services Definition Language (WSDL) | 2 |
| **L11** | Web Services Definition Language (WSDL) | 2 |
| **L12** | Simple Object Access Protocol (SOAP) | 2 |
| **L13** | Simple Object Access Protocol (SOAP) | 2 |
| **L14** | Simple Object Access Protocol (SOAP) | 2 |
| **L15** | Universal Description, Discovery, and Integration (UDDI) | 2 |
| **L16** | Representational State Transfer (ReST) | 2 |
| **L17** | Representational State Transfer (ReST) | 2 |
| **L18** | Creating Web Services | 2 |
| **L19** | Deploying Web Services | 2 |
| **L20** | Creating and Deploying Web Services | 2 |
| **L21** | Web Services to Semantic Web Services | 2 |
| **L22** | OWL-S | 2 |
| **L23** | OWL-S | 2 |
| **L24** | WSDL-S | 2 |
| **L25** | Realizing the Promise of SOA | 3 |
| **L26** | SOA - Architecture Fundamentals | 3 |
| **L27** | SOA - Architecture Fundamentals | 3 |
| **L28** | Composing Services | 3 |
| **L29** | SOA Security | 3 |
| **L30** | SOA Security | 3 |
| **L31** | SOA Governance | 3 |
| **L32** | SOA Governance | 3 |
| **L33** | JSON | 4 |
| **L34** | Resources and Representation | 4 |
| **L35** | Designing a ReST Service | 4 |
| **L36** | ReST vs SOAP | 4 |
| **L37** | Securing a ReST Service | 4 |
| **L38** | Creating ReST Services | 4 |
| **L39** | Consuming ReST Services | 4 |
| **L40** | Deploy and Manage API on Amazon Web Services (AWS) | 4 |
| **L41** | Microservices Architecture | 5 |
| **L42** | Key Benefits | 5 |
| **L43** | Compare Microservices with SOA | 5 |
| **L44** | Integration | 5 |
| **L45** | Microservices at scale | 5 |
| **L46** | Microservices at scale | 5 |
| **L47** | Building Microservices | 5 |
| **L48** | Consuming Microservices | 5 |
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**References:**

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| 1. | Joe Fawcett, Liam R. E. Quin and Danny Ayers, “Beginning XML”, (5e), Wrox, 2012 |
| 2. | Liyang Yu,“ Introduction to the Semantic Web and Semantic Web Services”, (1e), Taylor & Francis Group, 2007 |
| 3. | Michael Rosen, Boris Lublinsky, Kevin T. Smith and Marc J. Balcer, “Applied SOA: Service-Oriented Architecture and Design Strategies”, (1e), Wiley, 2008 |
| 4. | Leonard Richardson, Mike Amundsen and Sam Ruby, “RESTful Web APIs”, (1e), O'Reilly, 2013 |
| 5. | Sam Newman,“Building Microservices”, (1e), O'Reilly, 2015 |
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| **Submitted by:** | **Roshan DAVID** |

**(Signature of the faculty)**

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| **Date:** | **04-01-2018** |

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| **Approved by:** | **DR. ASHALATHA NAYAK** |

**(Signature of HOD)**

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| **Date:** | Click or tap to enter a date. |

**Faculty members teaching the course (IF MULTIPLE sections EXIST):**

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| **FACULTY** | **Section** | **FACULTY** | **Section** |
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