

**SSN COLLEGE OF ENGINEERING**  
**Department of CSE**  
**COURSE PLAN**

|                          |   |  |
|--------------------------|---|--|
| <b>SUBJECT NAME</b>      | : | <b>Distributed Systems</b>                     |
| <b>SUBJECT CODE</b>      | : | <b>CS6601</b>                                  |
| <b>DEGREE / YEAR</b>     | : | <b>B.E., CSE / III YEAR/ A &amp; B Section</b> |
| <b>BATCH</b>             | : | <b>2015-2019</b>                               |
| <b>SEMESTER</b>          | : | <b>VI (2017-18: Even)</b>                      |
| <b>NAME OF THE STAFF</b> | : | <b>H. Shahul Hamead &amp; Y. V. Lokeswari</b>  |
| <b>DESIGNATION</b>       | : | <b>Assistant Professor</b>                     |

(Content Delivery Methods (CDM)): **Powerpoint presentations\Projector\Use of ICT\Chalk and Blackboard (for all topics), T-Tutorial**

| <b>S. No.</b>          | <b>Topic</b>   | <b>CDM</b> | <b>Planned Hours</b> | <b>Actual Hours</b> | <b>Remarks</b> |
|------------------------|--|------------|----------------------|---------------------|----------------|
| <b><u>UNIT I</u></b>   |  |            |                      |                     |                |
| 1.                     | Examples of Distributed Systems  |            | 1                    |                     |                |
| 2.                     | Trends, Focus on resource sharing                                      |            | 2                    |                     |                |
| 3.                     | Challenges   |            | 2                    |                     |                |
| 4.                     | Case study: World Wide Web   | S          | 2                    |                     |                |
|                        | <b>Total Hours</b>   |            | <b>7</b>             |                     |                |
| <b><u>UNIT II</u></b>  |  |            |                      |                     |                |
| 5.                     | System Models  |            | 3                    |                     |                |
| 6.                     | IPC, The API for internet protocols                                    |            | 1                    |                     |                |
| 7.                     | External data representation and Multicast communication               |            | 1                    |                     |                |
| 8.                     | Overlay networks, Case Study: MPI                                      |            | 1                    |                     |                |
| 9.                     | RPC – Protocol, Functions, Case Study: RMI                             |            | 2                    |                     |                |
| 10.                    | Group communication, Publish-subscribe systems                         |            | 1                    |                     |                |
| 11.                    | Message queues, Shared memory approaches                               |            | 2                    |                     |                |
| 12.                    | Distributed objects, Case Study: EJB                                   | S          | 1                    |                     |                |
|                        | <b>Total Hours</b>   |            | <b>12</b>            |                     |                |
| <b><u>UNIT III</u></b> |  |            |                      |                     |                |
| 13.                    | P2P Systems, Napster, P2P Middleware                                   |            | 2                    |                     |                |
| 14.                    | Routing Overlays, Case Studies: Pastry, Tapestry                       |            | 2                    |                     |                |
| 15.                    | Distributed File Systems, Architecture, Case Study: Andrew File system | S          | 2                    |                     |                |
| 16.                    | File Sharing Semantics, Accessing Models                               | S          | 2                    |                     |                |
| 17.                    | Naming, LDAP   | S          | 2                    |                     |                |
|                        | <b>Total Hours</b>   |            | <b>10</b>            |                     |                |
| <b><u>UNIT IV</u></b>  |  |            |                      |                     |                |
| 18.                    | Clocks, Events, Logical Clock  |            | 1                    |                     |                |
| 19.                    | Vector Clock   |            | 1                    |                     |                |
| 20.                    | Global States  |            | 1                    |                     |                |
| 21.                    | Coordination and Agreement   |            | 3                    |                     |                |
| 22.                    | Distributed Mutual Exclusion   |            | 2                    |                     |                |

|                      |  |   |           |  |  |
|----------------------|--|---|-----------|--|--|
| 23.                  | Election Algorithms                        |   | 1         |  |  |
| 24.                  | Transactions, Concurrency Control, Locks   |   | 2         |  |  |
| 25.                  | Optimistic Control, Atomic Commit Protocol |   | 2         |  |  |
| 26.                  | Time Stamp Ordering                        |   | 1         |  |  |
| 27.                  | Distributed Deadlocks                      |   | 2         |  |  |
| 28.                  | Replication, Case Study                    | S | 2         |  |  |
|                      | <b>Total Hours</b>                         |   | <b>18</b> |  |  |
| <b><u>UNIT V</u></b> |  |   |           |  |  |
| 29.                  | Process Management                         |   | 2         |  |  |
| 30.                  | Resource Scheduling                        |   | 2         |  |  |
| 31.                  | Load Balancing                             |   | 2         |  |  |
| 32.                  | Load Sharing                               |   | 2         |  |  |
| 33.                  | Task Assignment                            |   | 1         |  |  |
|                      | <b>Total Hours</b>                         |   | <b>9</b>  |  |  |
| <b>Total Hours</b>   |  |   | <b>56</b> |  |  |

**Total Number of Syllabus Hours : 45**

**Total Number of Planned Hours : 56**

**Content Delivery Methods (CDM): Lecture and Seminar (S)**

**Prepared by**

**Verified by**

**Approved by**

**H. Shahul Hamead**

**Y. V. Lokeswari**

**PAC Team**

**HOD-CSE**