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| 1.  | Title of the course   | Performance Evaluation of Computer Systems   |
| 2.  | Course number   | CS508L   |
| 3.  | Structure of credits  | 3-0-0-3  |
| 4.  | Offered to  | PG   |
| 5.  | New course/modification to  | Modification To CS5026/6   |
| 6.  | To be offered by  | Department of Computer Science and Engineering<br>/ Department of Electrical Engineering |
| 7.  | To take effect from   | July 2022  |
| 8.  | Prerequisite  | CoT  |
| 9.  | <b>Course Objective(s):</b> To understand the various performance evaluation techniques in three broad categories of analysis, simulation, and experiment design. To apply the techniques to systematically evaluate the performance of computer sub-systems.   |  |
| 10. | <b>Course Content:</b> Covers different performance evaluation techniques in the broad categories of analytical modelling such as Markov chains, queueing models including network of queues, simulation techniques such as discrete event simulation modelling, and experimental design methodologies. Study the different stages of performance evaluation methodology such as workload characterisation, measurement of performance metrics, analysis, interpretation, and presentation of results. Apply the techniques to evaluate the performance of various computer subsystems. |  |
| 11. | <b>Textbook(s):</b><br>1. Raj Jain, The Art of Computer System Performance Analysis: Techniques for Experimental Design Measurements Simulation and Modeling, Wiley (2015).<br>2. Mor Harchol-Balter, <i>Performance Modling and Design of Computer Systems</i> , Cambridge (2013).   |  |
| 12. | <b>Reference(s):</b><br>1. Peter G Harrison and Naresh M Patel, Performance Modeling of Communication Networks and Computer Architectures, Addison-Wesley Longman (1993).<br>2. Trivedi K S, <i>Probability and Statistics with Reliability Queueing and Computer Science Applications</i> , Wiley (2001).  |  |