

| Information Technology Infrastructure-Lab                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |   |                     |           |                       |      |
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| <b>Credit Hours:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 1 | <b>Course Code:</b> | INFT-2212 | <b>Prerequisites:</b> | None |
| <b>Lab Contents:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |   |                     |           |                       |      |
| Introduction to IT Infrastructure Building Blocks and Nonfunctional Attributes, Availability Calculations and Metrics, Datacenter Setup and Availability Exercises, Server Configuration and Management Labs, Networking Labs with OSI Model and Security, Storage System Configuration and Backup Labs, Virtualization Performance and Security Labs, Operating System Installation and Management, Cloud Infrastructure Labs (AWS, Azure, GCP), Edge Computing Simulation and IoT Labs, Infrastructure as Code (Terraform, Ansible) Automation Labs, Implementing Zero Trust Security Principles, Sustainability Metrics Monitoring and Improvement. |   |                     |           |                       |      |
| <b>Reference Material:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |   |                     |           |                       |      |
| <ol style="list-style-type: none"> <li>1. IT Infrastructure Architecture: Infrastructure building blocks and concepts by Sjaak Laan, 4<sup>th</sup> Edition, Year 2023, ISBN-13: 978-1447780939</li> <li>2. IT Infrastructure and Management by Surendra Keshari, Narendra Kumar, Year 2013, ISBN-13: 978-9381141991</li> <li>3. IT Infrastructure and Management: For the GBTU and MMTU by Manoj Kumar Choubey, ISBN-13: 978-8131767214</li> </ol>                                                                                                                                                                                                    |   |                     |           |                       |      |