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| **Course Code** | | **Course Name** | **L-T-P: Credits** |
| **EE 255** | | **NETWORK THEORY LAB** | **0-0-2: 1** |
| **Pre-requisite: NIL Co-requisite: Network Theory** | | | |
| **Course Objectives:**   1. To understand the practicability of electrical networks, their laws and theorems. 2. To provide practical knowledge in the analysis of networks and verification of characteristics. | | | |
| **Syllabus (List of Experiments)** | | | |
| 1. | Verify principle of Superposition theorem with dc and ac sources. | | |
| 2. | Verify Thevenin and Norton theorems in ac circuits. | | |
| 3. | Verify Maximum Power Transfer theorem in ac circuits. | | |
| 4. | Verify Reciprocity and Tellegen’s theorems. | | |
| 5. | Verify resonance phenomenon in RLC series circuit. | | |
| 6. | Verify resonance phenomenon in RLC parallel circuit. | | |
| 7. | Determination of self-inductance, mutual-inductance and coupling co-efficient of a single phase two winding transformer representing a coupled circuit. | | |
| 8. | Observe the transient response of current in RL and RC circuits with step voltage input. | | |
| 9. | Observe the transient response of current in RLC circuits with step voltage input for under-damp, critically damp and over-damp cases. | | |
| 10. | Determination of z and h parameters (dc only) for a network and computation of Y and ABCD parameters. | | |
| 11. | Determination of equivalent parameter of parallel connections of two port network and study loading effect. | | |
| **Supplementary Readings:**   1. W. H. Hayt and J. E. Kemmerley, “Engineering Circuit Analysis”, Tata McGraw Hill, Eighth Edition, 2013. 2. M. E. Van Valkenburg, “Network Analysis”, Prentice-Hall of India Pvt. Ltd., Third Edition, 2014. 3. Donald E. Scott, “An Introduction to Circuit analysis: A System Approach”, New edition McGraw Hill Inc., 1987. | | | |