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| **logo University of Management & Technology** School of Engineering Department of Electrical Engineering |
| EL 212 Electrical Network Analysis Lab |
| **Lab Schedule** | See **Lab 1**, Ground Floor, South Block | **Semester** | Fall 2013 |
| **Pre-requisite** | EL-111 Circuit Analysis Lab | **Credit Hours** | 1 |
| **Instructor(s)** | Ayesha Iqbal(1)Asma Umar(2)Abdullah Khalid(3)Hasan Tariq(4)Abdullah Saqlain Sahi(5) | **Contact** |  ayesha.iqbal@umt.edu.pk asma.umar@umt.edu.pk abdullah.khalid@umt.edu.pk hassantariq@umt.edu.pk saqlain.sahi@umt.edu.pk |
| **Office** | Instruments Lab(1), Circuits Lab(2), Digital Systems Lab(3), Machines Lab(4) | **Office Hours** | N/A |
| **Teaching Assistant** | None | **Contact** | N/A |
| **Office** | N/A | **Office Hours** | N/A |
| **Course Description** | In accordance with HEC curriculum objectives a, d, f & g, the labs have been designed in such a way to help students understand course contents from a practical perspective, get sound engineering knowledge along with hands-on experience in the usage of laboratory equipments. |
| **Expected Outcomes** | In accordance with HEC curriculum outcomes a, b, d, e, g, h & i, students at the end of the course should be able to* Learn the use of Laboratory equipment (Oscilloscope, Function Gen, DC Supply)
* Learn Frequency responses on various passive circuit elements
* Calculate average, real and complex powers
* Learn the Magnitude & Phase plots of Passive Filters
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| **Textbook(s)** | N/A |
| **Grading Policy** | **Sessionals:** 40 marks (Lab work + Manuals + Lab vivas)**Final:** 60 marks (30 marks for viva + 30 marks for performance) |

**Lab Course Schedule**

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| **Week** | **Experiments** |
| **1** | **To study the step response of First and Second order circuits** |
| **2** | **Frequency Response of Series RC Network** |
| **3** | **Frequency Response of Series RL Network** |
| **4** | **Oscilloscape and Phase Measurements** |
| **5** | **Frequency Response of Parallel RL & RC Circuit** |
| **6** | **Frequency Response of Series-Parallel RLC Circuit** |
| **7** | **Magnitude & Phase Response of Resonant RLC Circuit** |
| **8** | **Passive Filter: Low Pass Filter** |
| **9** | **Passive Filter: High Pass Filter** |
| **10** | **Passive Filter: Band Pass Filter** |
| **11** | **Passive Filter: Band Stop Filter** |
| **12** | **Current and Voltages in Balanced Three Phase System** |
| **13** | **Sinusoidal Steady-State** |
| **14** | **Impedance and Admittance Parameters of Two Port Network** |
| **15** | **Observe the Damping Effect in RLC Series Circuit** |