**Experiment 1 – To Study and Verify the Superposition theorem**

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| **Domain** | **Mechanical, Electrical, Chemical, Civil** |
| **Course** | **Numerical Methods** |
| **Topic** | **Roots of Equation** |

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| **Learning Objectives** | **Cognitive level** | **Task** | **Assessment questions** |
| Superposition Theorem across AC Circuit | **Level 3 - Apply** | **Find the Value of V using Superposition Theorem**  **C:\Users\HP\Pictures\Screenshots\Screenshot (180).png**  **R = 2000**  **R = 2000**  **I = 0.002A**  **C = 0.002F**  **L = 2H**  **3∠90**  **12∠90** | **Find the Voltage across sensor ‘V’**   1. **5.25** 2. **4.75** 3. **7**   **D. 6.5** |
| Checking For homogenity | **Level 4 - Analysis** | **Find the value of voltage across sensor when current source is doubled**  **C:\Users\HP\Pictures\Screenshots\Screenshot (184).png**  **I = 0.008A**  **C = 0.002F**  **L = 2H** | **What is the Voltage across sensor when i1 = 0.008A and when i1 is doubled.**  A  v = 8 and v = 16. B  v = 2 and v = 4 C  v = 4 and v =8  D  v = 16 and v = 32 |
| Superposition theorem used to find voltage across circuit | **Level 5 - Evaluate** | **Find The Voltage across sensor using Superposition theorem**  **C:\Users\HP\Pictures\Screenshots\Screenshot (188).png** | **What is the Voltage across sensor ‘V’**  A  78.25  B  81 C  82.5  D  87 |