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**Faculty of Engineering & Technology**

**Electrical Circuits 1**

**Information :**

**Course Code :** EED201

**Level :** Undergraduate

**Course Hours :** 4.00- Hours

**Department :** Biomedical Engineering

**Description :**

Basic electrical quantities, Ohm's Law, Kirchhoff's Laws, Resistance and source combinations, Voltage and current division,  $\Delta$  transformation. Techniques of solving DC electric circuits: nodal and mesh analysis, source transformation. Circuit theorems: superposition, Thevenin, Norton and Maximum power transfer. AC sinusoidal sources, Time domain and phasor representation, Inductance and capacitance: Voltage and current relationships, Impedance and admittance, Voltages and currents phasor diagrams, Techniques of solving AC electric circuits: Nodal analysis, Mesh analysis, and source transformation. Theorems: superposition, Thevenin, and Norton. Steady state power analysis.