SHAMBHUNATH INTITUTE OF ENGINEERING & TECHNOLOGY

Important Theory Questions for Unit-3

Sub- Basic Electrical Engineering (NEE-101)

Q (1). **Derive relationship between line and phase voltage and current in 3- phase balanced star connected load.**

Q (2). **Show that $V_L = \sqrt{3}\, V_P$ for three-phase balanced star connected load.**

Q (3). **Show that $I_L = \sqrt{3}\, I_P$ for three-phase balanced delta connected load.**

Q (4). **Derive relationship between line and phase voltage and current in 3- phase balanced delta connected load.**

Q (5). **Explain power measurement by two wattmeter method.**

Q (6). **Show that** $\cos\phi = \cos\tan^{-1}\left[\frac{W_1 - W_2}{W_1 + W_2}\right]$ **for power measurement by two wattmeter method.**

Q (7). **Describe the working and construction of PMMC type instrument or voltmeter or ammeter, with neat and clean diagram. Also show that deflection of pointer $(\theta) \propto I$. Mention its merits and demerits.**

Q (8). **Describe the working and construction of Electrodynamic or Dynomometer type wattmeter. Also show that deflection of pointer indicates average power.**

Q (9). **Explain the working and construction of repulsion type moving iron instrument or ammeter or voltmeter with neat and clean diagram. Mention its merits and demerits. Also show that pointer deflection $(\theta)\ \alpha\ I^2$.**

Q (10). **Explain the working and construction of attraction type moving iron instrument or voltmeter or ammeter with neat and clean diagram. Mention its merits and demerits.**

Q (11). **Write short notes on the following:**

- **a) Deflecting Torque**
- **b) Controlling Torque**
- **c) Damping Torque**

OR

Q (12). **Explain essential torques for indicating instruments.**