**Observing and analyzing Single Phase Transformer and to connect it to Main Supply**

**8.1 Objectives:**

* To study the behavior of turn ratio in step-up and step-down transformer.

**8.2 Apparatus:**

Single Phase Transformer.

AC Voltage Supply.

Volt-meter.

Ammeter.

Connecting leads.

**8.3 Theory:**

A single phase transformer is a type of power transformer that utilizes single phase alternating current meaning transformers relies on voltage cycle that operates in a unified time phase. They are often used to step down long distance and localized transmission into power levels more stable for residential and light commercial applications.

**8.4 Procedure:**

First of all we take a single phase transformer which can be used both as step up and step down voltage transformer. We connect a variable power supply with the primary side of the single phase transformer with the help of two pins and then connect a digital multi-meter at the secondary side of the single phase transformer with the help of two pins, then we saw that some values of voltage appears on the digital multi-meter as an error, then we increase voltage up to some value of voltage which shows a double times value of voltage on the digital multi-meter on the secondary side of the transformer which shows that it is step up transformer. If we connect variable power supply on the secondary side and digital multi-meter at the primary side then the result the result will be opposite i.e. the digital multi-meter will show half of the value of the variable power supply which shows that this transformer can behave both step up and step down voltage transformer.

**8.5 Observation:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.No** | **Primary** | **Secondary** | **Supply Voltage**  | **Output Voltage** |
| **Single Phase Transformer** | **Np=** | **Ns=** |  |  |

**8.6 Conclusion:**

**8.7 Circuit Diagram:**

1. **Single Phase Transformer:**

**Date**\_\_­­­\_\_\\_\_\_\_\\_\_\_\_

 **Teacher Remarks**: Submitted ON TIME / LATE

 **Absent / Present**

 **Obtained Marks**: \_\_\_\_\_/10