Heaven's Light is Our Guide

Rajshahi University of Engineering & Technology

Department of Electrical & Computer Engineering

Lab Report

Experiment No: 05

Name of the experiment: Three Phase Sequence test using Bulb.

Course Code	1202
Course Title	Circuit & System – II Sessional

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Experiment No: 05
Name of the Experiment: Three Phase Sequence test using Bulb.
Objectives:
To observe the three phase sequence by observing light intensity of bulb.
Required Apparatus:

- Two Bulb
- Connecting Wires
- VARIAC
- 2.5 µF capacitor

Theory: The phase sequence determines the direction of rotation in motors, with a clockwise or counterclockwise rotation depending on whether the sequence is ABC or CBA. Reversing the phase sequence (e.g., swapping any two phases) will reverse the direction of rotation of the motor. This makes checking the phase sequence important when connecting equipment to avoid potential issues with machinery.
In a balanced three-phase system, the voltages are separated by a phase angle of 120°.
The phase sequence is either ABC or CBA, depending on the order in which the phases reach their maximum values.
In an ABC sequence, phase A reaches its peak first, followed by phase B, then phase C.
In a CBA sequence, phase C reaches its peak first, followed by phase B, then phase A.

Diagram:

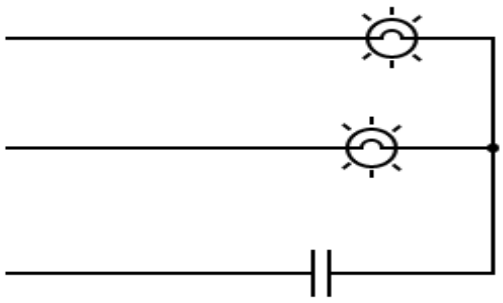
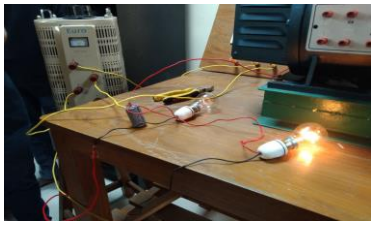


Fig: Cicuit diagram for bulb test

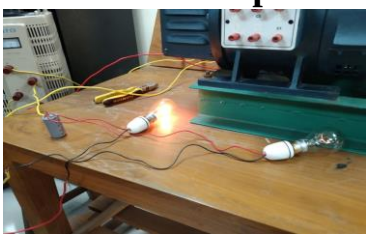
Results:

- **For ABC Phase sequence:**



When a middle light was less bright , the phase sequence was observed as ABC .

- **For ACB phase sequence:**



When a terminal light was less bright , the phase sequence was observed as ACB .

Discussions:

When a light was less bright , it was determined as B and the brighter light was determined as the C ,and the capacitor was determined as A sequence.By observing these we could determined the sequence of three phases.

Precautions:

- Stay away from the connections after providing voltage.
- Safely provided the connection to the voltage source.
- Carefully observe the intensity of lights.