# Department of Computer Science
# Forman Christian College
## (A Chartered University)
# Lahore



**Digital Logic Design**
**COMP 206**

# DIGITAL LOGIC DESIGN
# COMP 206
# LAB 09- RUBRIX

| DESCRIPTION | MARKS ALLOCATED |
|---|---|
| Attendance | 5% |
| Proper handling of components, ICs and wiring | 20% |
| Hardware wired completely( for all circuits) | 30% |
| End questions | 45% |

**Marks will be deducted in case if students have not completely and correctly filled the data tables.**
**Note that these marks are max in each category. We may assign less than the given percentage of marks in case students have not successfully completed all the requirements.**
**This lab is time constrained. Please note that you must finish your work and submitted duly filled handout to the lab engineer within given time.**

# LAB 9
# MAGNITUDE COMPARATOR

**Name:**

**Roll No:**

**Date:**

## Learning Objectives:

By the end of this lab, you will implement a circuit to compare two 4-bit binary numbers.

## Background:

A magnitude digital Comparator is a combinational circuit that **compares two digital or binary numbers** in order to find out whether one binary number is equal, less than or greater than the other binary number. We logically design a circuit for which we will have two inputs one for A and other for B and have three output terminals, one for A > B condition, one for A = B condition and one for A < B condition.
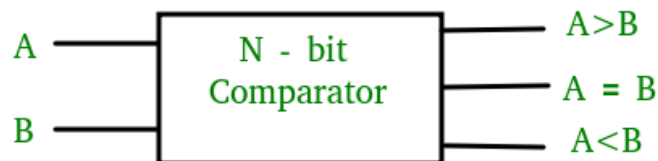


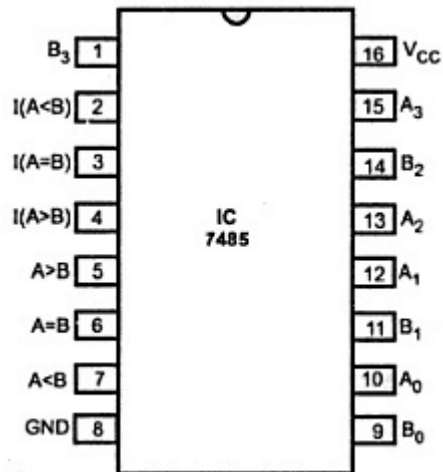## Experimental Setup:

1. **Components required:**
   - 7485
   - Connecting wires
   - Trainer board
2. **Procedure:**

Connect the IC 7485 according to the pin configuration shown in the following figure.

3. **Record answers to the following inputs**

a.   A=1010, B=1000, Output = _____A > B __

b.   A=0011, B=0100, Output = ___A < B _ __

c.   A = 0110, B=0110, Output = ___A = B _ __