# **IZMİR KATİP ÇELEBİ UNIVERSITY**

Mechatonics Engineering, Faculty of Engineering & Architecure



# MEE210 ELECTRICAL MACHINES - Experiment #5

# **LABORATORY CONTENT:** DC motor control using relay, switch and buttons

### **EQUIPMENT REQUIRED: (students should bring electronic components)**

### **Qty Description**

- 1 Voltage supply (will be ready at lab.)
- 1 Breadboard
- DC motor
- Switches
- Buttons
- 1 5V relay
- 1 Transistor
- 1 100 ohm resistor
- Wiring equipments (jumper cables, crocodiles, etc.)

### **PRELIMINARY QUESTIONS:**

- 1) These preliminary steps consist of the methods that will be used in the experiment. These methods are expected to be searched by you and not be given to you directly.
- 2) Using a relay, build up a circuit to control the motor. To drive the relay, use a transistor-based circuit with a button/switch.
- 3) Using just switches and buttons, build up another circuit to control the motor in both rotating directions.

# **EXERCISE STEPS:**

1) Show the working circuits.

#### **POSTLIMINARY QUESTIONS:**

1) Give examples about the methods learned in this experiment with the industrial applications.

### **IMPORTANT NOTE:**

- 1) The postliminary part should be demonstrated in the next laboratory week.
- 2) For the next experiment, you need to build up some contents. So, the ones who are not prepared for the experiment will not be allowed to participate.