

071306T4ELC

ELECTRONICS ENGINEERING L6

ENG/OS/ET/CR/04/6

Apply Electrical Instrumentation

July/August 2025



**TVET CURRICULUM DEVELOPMENT, ASSESSMENT AND CERTIFICATION COUNCIL
(TVET CDACC)**

PRACTICE ASSESSMENT

Time: 4 HOURS

INSTRUCTIONS TO CANDIDATE:

1. Figure 1 shows a Multi-vibrator circuit. You are required to perform the following tasks

TASK 1: Mount the circuit

- a) Power up your circuit using the provided power supply
- b) Using oscilloscope observe the waveform at the output
- c) Sketch the observed waveform

TASK 2: Using oscilloscope measure the waveform at the output and the record the following:

- a) Amplitude
- b) Period
- c) Duty cycle
- d) Frequency

TASK 3: Replace the $1\text{K}\Omega$ resistor with $100\text{K}\Omega$ resistor

- i. Observe and sketch the output waveform.
- ii. Note what happens with the
 - a. Amplitude
 - b. Period
 - c. Period Duty cycle
 - d. Frequency

TASK 4: Replace the $0.1\mu\text{F}$ capacitor with $100\mu\text{F}$ capacitor

- iii. Observe and sketch the output waveform.
- iv. Note what happens with the
 - e. Amplitude
 - f. Period
 - g. Period Duty cycle
 - h. Frequency

TASK 5: Carry out the following tests:

- a) continuity
- b) polarity

TASK 6: Write a report

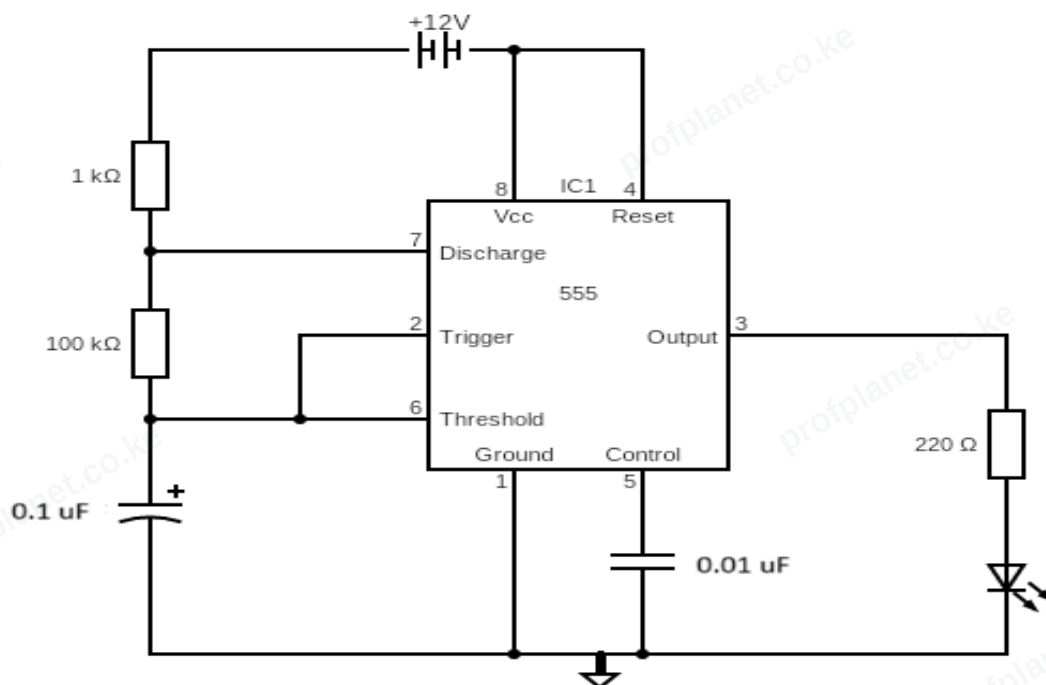


Figure 1

2. You have been provided with the following resources for the practical tasks:

- i. 555 timer
- ii. 220 Ohm resistor
- iii. 1K Ohm resistor
- iv. 10K Ohm resistor
- v. 100K Ohm resistor
- vi. 0.1uF electrolytic capacitor
- vii. 100uF electrolytic capacitor
- viii. 0.01 ceramic capacitor
- ix. LED
- x. Breadboard
- xi. Connecting wires
- xii. Oscilloscope
- xiii. Power supply
- xiv. 12V DC power adaptor