

071305T4ELC

ELECTRONICS ENGINEERING LEVEL 5

ENG/OS/ET/CR/05/5

Maintain Radio Frequency Systems

July/August 2025



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

PRACTICAL ASSESSMENT

Time: 4 HOURS

INSTRUCTIONS TO CANDIDATE:

1. You are provided with a pre-mounted faulty radio frequency detector circuit on a breadboard as shown in figure 1. Referring to figure 1, you are required to perform the following tasks:

TASK 1: Prepare a maintenance checklist of the circuit in figure 1.

TASK 2: Prepare tools and testing equipment.

TASK 3: Troubleshoot the RF detector circuit.

- i. Inspect the faulty circuit
- ii. Test the faulty circuit
- iii. Identify the fault
- iv. Repair the fault
- v. Test the repaired circuit and record the observation.

TASK 4: Mount and solder your working circuit on a copper stripboard.

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

- i. Pre-mounted circuit
- ii. Diode IN34A
- iii. 2.5 μ H RF Choke
- iv. 2 N3904 transistor
- v. 2 N3638 transistor
- vi. 9v battery, DC power supply
- vii. Resistor 1k Ω
- viii. Potentiometer resistor 1k Ω
- ix. Resistor 4.7k Ω
- x. Resistor 2.2k Ω
- xi. Electrolytic capacitor 18 v,47 μ F or equivalent
- xii. Piezo Electric Buzzer
- xiii. LED
- xiv. Strip board
- xv. Ceramic capacitor 0.01 μ F,18 v or equivalent.
- xvi. Ceramic capacitor 0.1 μ F,18 v or equivalent.
- xvii. Digital multimeter
- xviii. Soldering gun
- xix. Connecting cables
- xx. Solder Sucker
- xxi. Jumper wires
- xxii. Electronics tool kit

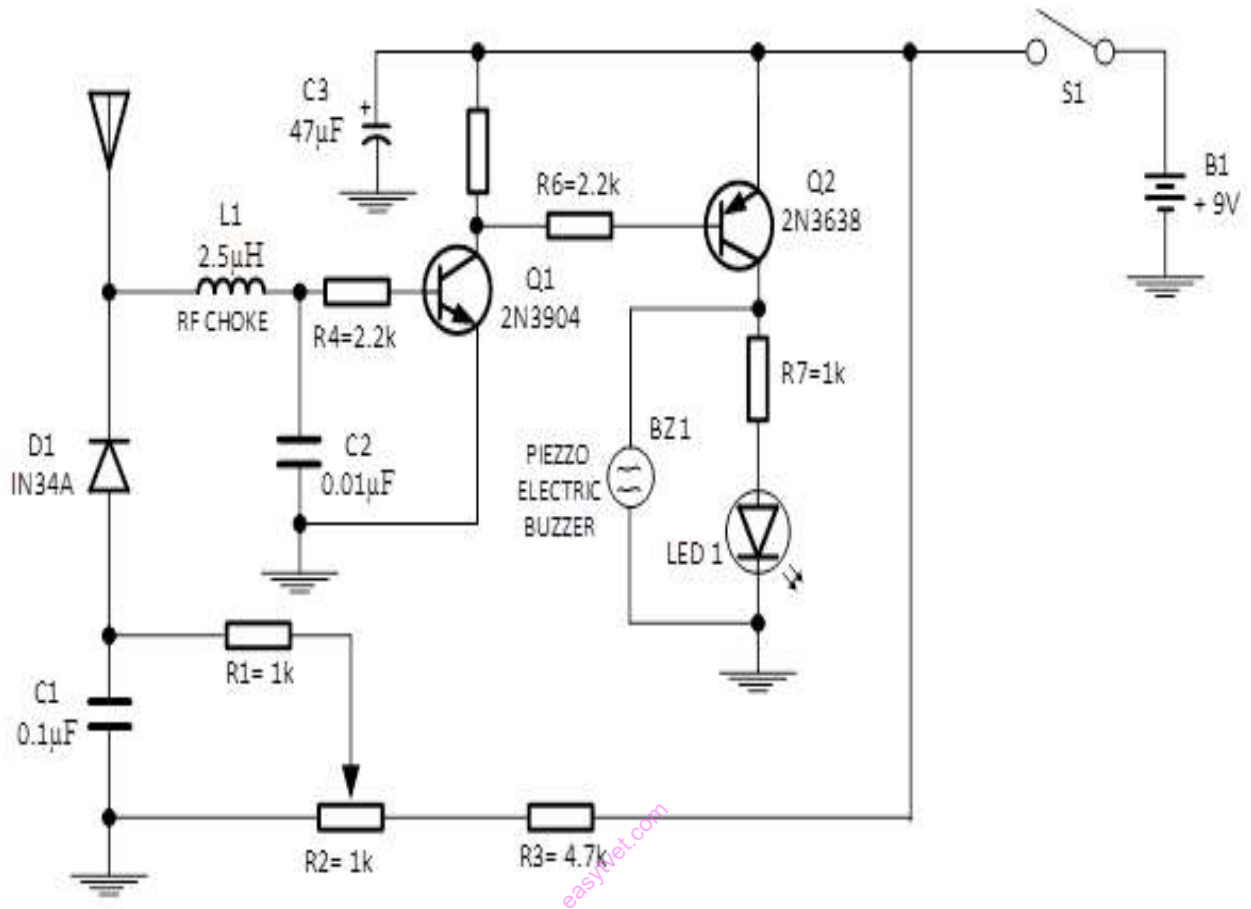


Figure 1.